(15)

No. 97-1130-CFX Title: Wayne K. Pfaff, Petitioner
v.
Wells Electronics, Inc.

Docketed: January 8, 1998 Court: United States Court of Appeals for the Federal Circuit

Entry	Date	Proceedings and Orders
	Jan 5 1998	Petition for writ of certiorari filed. (Response due February 7, 1998)
	Jan 30 1998	Brief of respondent Wells Electonics, Inc. in opposition filed.
	Feb 11 1998	DISTRIBUTED. February 27, 1998
	Mar 2 1998	REDISTRIBUTED. March 6, 1998
	Mar 9 1998	Petition GRANTED. limited to Question 1 presented by the petition. SET FOR ARGUMENT October 6, 1998. **********
	Apr 14 1998	Order extending time to file brief of petitioner on the merits until May 14, 1998.
	May 12 1998	Joint appendix filed.
	May 12 1998	Brief of petitioner Wayne Pfaff filed.
	May 14 1998	Brief amicus curiae of American Intellectual Property Law Association filed.
	May 14 1998	Brief amicus curiae of Global Gaming Technology, Inc. filed.
	May 14 1998	Brief amicus curiae of Patent, Trademark & Copyright Section of DC Bar Association filed.
	May 15 1998	Order extending time to file brief of respondent on the merits until June 29, 1998.
	May 20 1998	Motion of Federal Circuit Bar Association for leave to file a brief as amicus curiae filed.
	Jun 24 1998	Brief amicus curiae of Mas-Hamilton Group filed.
	Jun 26 1998	Motion of Federal Circuit Bar Association for leave to file a brief as amicus curiae GRANTED.
	Jun 29 1998	Brief amicus curiae of Dallas-Fort Worth Intellectual Property Law Association filed.
	Jun 29 1998	Brief of respondent Wells Electronics,Inc. filed.
	Jun 29 1998	Brief amicus curiae of United States filed.
	Jun 29 1998	Brief amicus curiae of View Engineering, Inc. filed.
	Jul 10 1998	Motion of Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument filed.
	Jul 29 1998	Reply brief of petitioner Wayne Pfaff filed.
	Aug 11 1998	CIRCULATED.
	Aug 12 1998	Record filed.
	Aug 26 1998	Record filed.
	Aug 27 1998	Motion of Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument GRANTED.

Supreme Court, U.S.
FILED

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No. _____

In The

Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

PETITION FOR WRIT OF CERTIORARI

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QUESTIONS PRESENTED

Section 102(b) of Title 35 provides, in pertinent part, that a person is entitled to a patent unless the invention was "on sale" more than one year prior to the date on which the application for United States patent was filed. Wayne K. Pfaff filed an application for patent on April 19, 1982 and his patent issued on January 1, 1985. At the time Mr. Pfaff filed his application, consistent with the plain language of Section 102(b), its legislative history, and relevant case law, it was settled that the one-year grace period did not start until the invention had been "fully completed."

In 1997, the Federal Circuit expressly rejected the statutory "fully completed" condition precedent and instead held that the one-year grace period may start when an invention has been only "substantially completed." Mr. Pfaff's invention was not fully completed more than one year before his April 19, 1982 filing date, but the Federal Circuit held it was substantially completed more than one year before that date and thus entered judgment that his United States Patent, No. 4,491,377, was invalid in view of the "on sale" provision of Section 102(b).

The questions presented are:

1) In view of the longstanding statutory definition that the one-year grace period to an "on sale" bar can start to run only after an invention is fully completed, should the Pfaff patent have been held invalid under 35

QUESTIONS PRESENTED – Continued

U.S.C. § 102(b) when Mr. Pfaff's invention was admittedly not "fully completed" more than one year before he filed his patent application?

2) Whether the Federal Circuit's newly created judicial rule – that "substantial completion" of an invention is sufficient to start the one-year grace period to the "on sale" bar – should be applied only prospectively, to avoid a "taking" of Mr. Pfaff's patent property in violation of the Fifth Amendment to the United States Constitution?

LIST OF PARTIES

The parties to the proceedings below were the Petitioner, Wayne K. Pfaff, and the Respondent, Wells Electronics, Inc.

The Respondent before this Court is Wells Electronics, Inc.

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PETITION FOR WRIT OF CERTIORARI

The Petitioner Wayne K. Pfaff respectfully prays that a writ of certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Federal Circuit, entered in the above-entitled proceeding on September 8, 1997. A petition for rehearing was timely filed but denied by that court on October 3, 1997.

OPINIONS BELOW

The opinion of the Court of Appeals for the Federal Circuit is reported at 124 F.3d 1429, and is reprinted in the appendix hereto, p. App. 1, *infra*. The denial of the petition for reconsideration has not been reported and is reprinted in the appendix hereto, p. App. 170, *infra*.

The Report and Findings of Fact and Conclusions of Law of Special Master, filed October 19, 1995, has not been reported. It is reprinted in the appendix hereto, p. App. 23, *infra*. The Final Judgment on Liability of the United States District Court for the Northern District of Texas (Sanders, B.), entered December 29, 1995, has not been reported. It is reprinted in the appendix hereto, p. App. 21, *infra*. The earlier opinion of the United States Court of Appeals for the Federal Circuit, reversing summary judgment of non-infringement, is reported at 5 F.3d 514 and is reprinted in the appendix hereto, p. App. 155, *infra*.

JURISDICTION

Jurisdiction in the United States District Court for the Northern District of Texas was pursuant to the provisions of 28 U.S.C. § 1338(a). The appeal to the United States Court of Appeals for the Federal Circuit was timely taken pursuant to the provisions of 28 U.S.C. §§ 1295, 2107. The jurisdiction of this Court to review the judgment of the Federal Circuit is invoked under 28 U.S.C. § 1254(1). The judgment of the Federal Circuit sought to be reviewed was entered on September 8, 1997 and, after a timely petition for rehearing was filed, the order denying rehearing was entered on October 3, 1997.

CONSTITUTIONAL PROVISION AND STATUTES INVOLVED

Fifth Amendment

> No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

35 U.S.C. § 102. Conditions for patentability: novelty and loss of rights to patent

A person shall be entitled to a patent unless –

* * *

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

* * *

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. § 261. Ownership; assignment

Subject to the provisions of this title, patents shall have the attributes of personal property.

* * *

STATEMENT OF THE CASE

Wayne K. Pfaff ("Mr. Pfaff") fulfilled a long-felt need in the semiconductor industry when he invented a socket to hold leadless semiconductor chip carriers for purposes

of testing. According to the district court, not only was the Pfaff invention "totally new with respect to each component part," but the commercial success achieved by this invention was "dramatic." App. 21-22, 126, 149.

Mr. Pfaff began to develop the patented subject matter in late 1980 or early 1981 after Texas Instruments, a company sophisticated in making and testing computer chips, approached at least four businesses, including that of Mr. Pfaff, in search of a new computer chip test socket. Mr. Pfaff obtained a written purchase order on April 8, 1981, but the purchase order was expressly conditioned on the socket functioning to the purchaser's satisfaction. An application for patent was filed on the Pfaff invention on April 19, 1982, and he was awarded United States Patent No. 4,491,377 (the "Pfaff '377 Patent") on January 1, 1985. It is undisputed that Mr. Pfaff's invention was not fully completed until sometime after the critical "statutory bar" date in April 1981 had passed.

This is the second time Mr. Pfaff has sued Wells Electronics, Inc. ("Wells") for infringement of the Pfaff '377 Patent. In the first case, reported at 9 U.S.P.Q.2d 1366 (N.D. Ind. 1988), App. 198, the United States District Court for the Northern District of Indiana ruled that Wells' then-accused devices did not infringe the Pfaff '377 Patent. The trial court also held that the absence of completion of the Pfaff invention (lack of "reduction to practice" in patent parlance) before the critical date meant that the patented invention could not have been on sale more than one year before Mr. Pfaff's application for patent was filed. App. 224-25. On cross-appeals to the United States Court of Appeals for the Federal Circuit from the decision of the Indiana court, the finding of non-

infringement was affirmed and the holding of validity was vacated as moot. 884 F.2d 1399 (Fed. Cir. 1989), App. 229.

Shortly thereafter, a modified Wells socket design appeared in the marketplace. Mr. Pfaff filed the instant suit for patent infringement in the United States District Court for the Northern District of Texas, No. 3:91-CV-1542-H. The district court initially granted summary judgment of non-infringement in favor of Wells. That judgment was reversed by the Federal Circuit and remanded for further proceedings. 5 F.3d 514 (Fed. Cir. 1993), App. 155. On remand, the case was referred to a Special Master for a non-jury trial. The Special Master's Findings of Fact and Conclusions of Law were adopted by the district court as its opinion, App. 21. In pertinent part, the district court held that the Pfaff invention was not on sale within the meaning of § 102(b) and that certain claims of the Pfaff '377 Patent were infringed by Wells. On appeal, the Federal Circuit explained that the sole reason the district court had not applied the on-sale bar was that the invention had not been reduced to practice, because there was no physical embodiment of the invention. App. 7-8. The appellate court, however, held that Mr. Pfaff's invention "was substantially complete" before the critical date, and, was thus on sale within the meaning of Section 102(b). App. 9. Accordingly, the claims in issue of the Pfaff '377 Patent were held to be invalid. App. 10, 20.

The basis for federal jurisdiction in the court of first instance is 28 U.S.C. § 1338(a).

REASONS FOR GRANTING THE WRIT

I. The Federal Circuit's Decision Below, Invalidating the Pfaff '377 Patent Based on the Invention Being "Substantially Completed," Represents Impermissible Judicial Legislation that Thwarts Congressional Intent.

This case presents an issue of importance to inventors and, particularly, to those who create inventions having commercial potential. Section 102(b) of the Patent Act of 1952, as amended (Title 35 of the United States Code), provides, in part:

> A person shall be entitled to a patent unless –
>
> . . . .
>
> (b) the invention was . . . in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. . . .

35 U.S.C. § 102(b). The plain language of the statute requires that an "invention," and nothing less (*i.e.*, not a "substantially complete" invention) be "on sale" to start the running of the one-year grace period.[1]

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[1] Congress legislatively defined "invention" to consist of two facets: "conception" and "reduction to practice." 35 U.S.C. § 102(g). Conception occurs when the inventor has sufficient concepts and information relating to the invention, so that a person skilled in the art could (if in possession of the inventor's thoughts and work) actually construct the invention. Reduction to practice occurs when the invention has actually been constructed in physical, tangible form. P. J. Federico, 2 *International Review of Industrial Property and Copyright Law* 368, 369 (1971). Therefore, an invention is fully completed when it is reduced to practice and exists in physical, tangible form.

That Congress intended such a reading of the statute is confirmed by the legislative history of 35 U.S.C. § 102(b) and its predecessors.[2]

The policy that an inventor should not have the unfettered right to complete and market an invention, and only later seek patent protection, has long been a part of the United States patent laws.[3] The Patent Act of 1839 first introduced a statutory grace period (then two years).[4] As this Court explained in *Andrews v. Hovey* [*The Driven Well Cases*], 123 U.S. 267 (1887), the object of adopting the two-year grace period "was to require the inventor to see to it that he filed his application within two years *from the completion of his invention, . . .* " *Id.* at 274 (emphasis added).[5]

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[2] Although reference to the legislative history may be unnecessary when the plain meaning of a statute is clear on its face, this Court has looked to legislative history for confirmation of the intended meaning of a statute. *See, e.g., Negonsott v. Samuels*, 507 U.S. 99, 106 (1993) (although "resort to secondary materials is unnecessary in this case, the legislative history . . . supports our construction"); *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 574 (1982) (legislative history "confirms that Congress intended the statute to mean exactly what its plain language says").

[3] *See* Patent Act of 1836, ch. 357, § 6, 5, Stat. 117 (1836) (repealed; current version codified as amended in 35 U.S.C. § 102(b)).

[4] Patent Act of 1839, ch. 88, § 7, 5, Stat. 353-355 (1836) (repealed, current version codified as amended in 35 U.S.C. § 102(b)).

[5] The Consolidated Patent Act of 1870 preserved the two-year grace period attached to the on-sale bar substantively unchanged. Ch. 230, § 1 et seq., 16 Stat. 198 (1870).

In 1939, the two-year grace period, then codified in section 4886 of the Revised Statutes, was reduced to one year.[6] The legislative history of the 1939 Act reiterated Congress' original and continuing intent that an invention be *fully completed* before the statutory grace period begins to accrue. The House and Senate Reports accompanying the 1939 Act state as follows:

> The [previous version of the] law . . . permits an inventor, after his invention is *fully completed*, to make the invention known to the public for a period of 2 years before the filing of his application for patent.
>
> . . . . Under present conditions 2 years appears unduly long and operates as a handicap to industry. Reduction of the period [to one year] would serve to bring the date of patenting closer to the time *when the invention is made*. . . .

H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939) (emphasis added); S. Rep. No. 876, 76th Cong., 1st Sess. 1 (1939) (same language). Congress thus affirmed its intent that "full completion" of an invention remain a prerequisite to the application of the on-sale bar. This is also confirmed in Section 102(g) of Title 35, which specifically refers to and deals with "conception" and "reduction to practice", the two facets of an invention.[7]

The last relevant revision of the patent laws was undertaken in 1952. The Patent Act of 1952, which codified the patent laws in Title 35 of the United States Code,

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[6] Patent Act of 1939 (the "1939 Act"), ch. 450, § 1, 53 Stat. 1212.

[7] *See* footnote 1, *supra*.

included no substantive changes to the on-sale bar.[8] The current version of section 102(b) remains identical to that enacted in 1952. *See* 35 U.S.C. § 102(b).

There should be no doubt, from the statutory language and the legislative history, that Congress intended that the statutory grace period not begin to run until an invention is "fully completed." A substantial body of appellate case law, moreover, routinely applied the rule that Section 102(b) requires an invention to at least be "fully complete" ("reduced to practice") before the statutory grace period begins to accrue.[9] Regional circuit courts consistently effectuated the congressional mandate that the one-year grace period to the "on sale" bar not start until the invention had been fully completed.[10]

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[8] The Senate Report accompanying the Patent Act of 1952 specifically states that "Section 102 in paragraphs (a), (b), and (c) repeats the conditions in the existing law relating to novelty." S. Rep. No. 1979, 82d Cong., 2d Sess. (1952), *reprinted in*, 1952 U.S.C.C.A.N. 2394, 2399. The only change in these paragraphs is "that due to division into lettered paragraphs." *Id.* at 2410 (revision notes to Section 102).

[9] By the early 1900's, full completion of the invention was an absolute prerequisite to the invocation of the on-sale bar. *See, e.g., M'Creery Eng. Co. v. Massachusetts Fan Co.*, 195 F. 498, 503 (1st Cir. 1912); *Burke Electric Co. v. Independent Pneumatic Tool Co.*, 234 F. 93 (2d Cir. 1916). Indeed, this early twentieth century caselaw not only required actual reduction to practice, but also that product be "on hand." *Id.*

[10] *See, e.g., Americo Contact Plate Freezers, Inc. v. Belt-Ice Corp.*, 316 F.2d 459, 465 (9th Cir.), *cert. denied*, 375 U.S. 902 (1963); *In re Yarn Processing Patent Validity Litigation*, 498 F.2d 271, 277 (5th Cir.), *cert. denied*, 419 U.S. 1057 (1974); *Timely Prods. Corp. v. Arron*, 523 F.2d 288, 302 (2d Cir. 1975); *CTS Corp. v. Piher Int'l Corp.*, 593 F.2d 777, 779 (7th Cir.), *cert. denied*, 444 U.S. 884 (1979);

Likewise, the Court of Claims and the Court of Customs and Patent Appeals (the predecessor courts to the Federal Circuit) followed the rule that "reduction to practice" was necessary before the one-year grace period commenced to run.[11]

Thus, at the time Petitioner's patent application was filed on April 19, 1982, the law governing the start of the grace period to the Section 102 on-sale bar was well-established, not only by the clear language of the statute and its legislative history, but also by a substantial body of case law. In keeping with the law as it existed at that time, Petitioner filed his application within one year after the completion of his invention, and his patent, No. 4,491,377, issued therefrom on January 1, 1985.

It is axiomatic that the ultimate objective of statutory interpretation "is to give effect to the will of Congress. . . ." *Griffin*, 458 U.S. at 570. In discerning the intent of Congress, the Court looks to the explicit language of the statute and its structure and purpose. *Ingersoll-Rand, Co. v. McClendon*, 498 U.S. 133, 138 (1990). When the will of Congress "has been expressed in reasonably plain terms, 'that language must

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Digital Equipment Corp. v. Diamond, 653 F.2d 701, 718 (1st Cir. 1981); *Stewart-Warner Corp. v. City of Pontiac, Mich.*, 717 F.2d 269 (6th Cir. 1983); *Dataq, Inc. v. Tokheim Corp.*, 736 F.2d 601, 604-05 (10th Cir. 1984).

[11] *In re Theis*, 610 F.2d 786, 791-92 (C.C.P.A. 1979); *In re Corcoran*, 640 F.2d 1331, 1333-34 (C.C.P.A. 1981); *General Electric Co. v. United States*, 654 F.2d 55, 62 (Ct. Cl. 1981). The decisions of the Court of Claims and the Court of Customs and Patent Appeals predating October 1, 1982 were adopted as precedent by the Federal Circuit, sitting *en banc*, in late 1982. *South Corp. v. United States*, 690 F.2d 1368, 1370 (Fed. Cir. 1982).

ordinarily be regarded as conclusive.' " *Griffin*, 458 U.S. at 570 (citation omitted). Congress may amend statutes; the courts may not. *Id.* at 576.

In rejecting the statutory requirement that an invention be "fully completed" before the one-year grace period can begin to run, and, thus, holding Petitioner's patent invalid under the lesser "substantially complete" standard, the Federal Circuit has ignored this Court's basic tenets of statutory construction and created a rule of construction that contravenes the Congressional desire to provide inventors with a universally understood, easily applied and predictable bright-line test. The Federal Circuit did not merely make a refinement to existing law; it made an enormous, unauthorized change. Its new test will inevitably result in case-by-case resolution that differ in outcome for reasons known only to the appellate court. As a result, the Federal Circuit has created an additional area of unpredictability in the patent system, ignoring the contrary policy decision by Congress (which intended to enhance predictability), to the detriment of inventors, and, ultimately, the public.[12] *UMC Electronics*, 816 F.2d at

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[12] This "substantially completed" interpretation is the end of an unauthorized multi-year effort by the Federal Circuit. In 1984, in *Barmag Barmer Maschinefabrik AG v. Murata Mach. Ltd.*, 731 F.2d 831, 836-37 (Fed. Cir. 1984), the appellate court although acknowledging its predecessor court had followed the general rule that made actual reduction to practice on absolute necessity, opined in *dicta* that such might not always be the case. Beginning with *UMC Electronics Co. v. United States*, 816 F.2d 647, 652, 656-57 (Fed. Cir. 1987) (holding "that reduction to practice is not always a requirement of the on-sale bar"), *cert. denied*, 484 U.S. 1025 (1988), the Federal Circuit has impermissibly substituted its own judgment for that of the

664-65 (Fed. Cir. 1987) (Smith, J. dissenting); *Atlantic Thermoplastics Co. v. Faytex, Inc.*, 5 F.3d 1477, 1482-87 (Fed. Cir. 1993) (Radar, J., dissenting). This Court's guidance about the proper construction of the statutory "on sale" bar is important, not only to Petitioner, but also to inventors and technology-based businesses in general.

II. The "Substantially Complete" Standard, Applied Retroactively, Constitutes a Violation of the "Takings Clause" of the Fifth Amendment to the Constitution.

The Fifth Amendment to the United States Constitution, in pertinent part, provides:

> No person shall . . . be deprived of life, liberty, or property without due process of law, *nor shall private property be taken for public use, without just compensation.*

U.S. Const. amend. V (emphasis added). The Fifth Amendment protects private property, both real and personal, including intellectual property. *See, e.g., Ruckelshaus v. Monsanto Co.*, 467 U.S. 986, 1001-04 (1984)

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legislature and, in the process, has broadened the scope of the on-sale bar well beyond that mandated by the Congress. The Federal Circuit's adoption of the "substantial completion" standard, applied in this case, or any other standard requiring less than a *fully completed* invention as a prerequisite to the start of the one-year grace period, imposes on inventors yet another burden – that of electing whether to incur the expense of patent procurement without an actual product, often during a period of undercapitalization. It also has the potential for chilling research efforts in joint ventures.

(trade secrets in the form of data are cognizable as property "protected by the Taking Clause of the Fifth Amendment"); *Pittman v. Chicago Board of Ed.*, 64 F.3d 1098, 1104 (7th Cir. 1995) ("property" as used in the Takings Clause "encompasses real and personal property, including intellectual property"), *cert. denied*, ___ U.S. ___, 116 S. Ct. 2497 (1996).[13]

That patents are not only a form of intellectual property, but also personal property, is made clear by Congress: "Subject to the provisions of this title, patents shall have the attributes of personal property." 35 U.S.C. § 261.[14] Petitioner's patent rights, then, are clearly entitled to the full protection of the Fifth Amendment. Invalidation of Petitioner's patent through retroactive application of the Federal Circuit's new rule that the one-year grace period may start upon "substantial completion" of an invention is nothing less than a judicial taking.

The Takings Clause of the Fifth Amendment applies not only when the government exercises its power of eminent domain to take ownership of private property, but also when government action works to destroy an owner's property right or denies the owner any economically viable use of his property. *See, e.g., Pennsylvania Coal*

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[13] *Cf. Leesona v. United States*, 599 F.2d 958, 965 (Ct. Cl.) (when the government infringes a patent "it is deemed to have 'taken' the patent license under an eminent domain theory and just compensation is required by the Fifth Amendment"), *cert. denied*, 444 U.S. 991 (1979); *Techtronix, Inc. v. United States*, 196 U.S.P.Q. 204 (Ct. Cl. 1977).

[14] This provision long preceded Mr. Pfaff's invention. *See also* Howe, *Holmes-Pollack Letters* 53 (2d ed.).

Co. v. Mahon, 260 U.S. 393, 414 (1922); *Dolan v. City of Tigard*, 512 U.S. 374, 383-396) (1994). Furthermore, the government "cannot be permitted to defeat the constitutional prohibition against taking property without due process of law by the simple device of asserting retroactively that the property it has taken never existed at all." *Hughes v. Washington*, 399 U.S. 290, 296-97 (1967) (Stewart, J., concurring). The "retroactive transformation of private into public property" achieves the same result as an exercise of eminent domain. *Id.*

The constitution protects property owners not only from legislative and administrative actions that deprive them of their property without just compensation, but also from judicial actions that amount to such takings. *See, id.* at 298. "No more by judicial decree than by legislative fiat" may private property be transformed into public property without just compensation. *Stevens v. City of Cannon Beach*, 510 U.S. 1207 (1994) (Scalia, J., dissenting from denial of petition for writ of certiorari). Such judicial actions may include an unexpected departure from long-standing judicial precedent. *See Robinson v. Ariyoshi*, 441 F. Supp. 559 (D. Hawaii 1977), *aff'd in relevant part*, 753 F.2d 1468 (9th Cir. 1985), *vacated on other grounds*, 475 U.S. 902 (1986).

The Federal Circuit's decision in this case rejects the law as it existed at the time of Petitioner's April 1982 patent application. The Federal Circuit, by holding Mr. Pfaff's patent invalid under Section 102(b) after using the new "substantially completed" standard to prematurely exhaust the one-year grace period to the on-sale bar, effectively appropriated Petitioner's invention for free use by the public. Such action amounts to a taking of

Petitioner's '377 Patent within the meaning of the Takings Clause of the Fifth Amendment. This judicial taking, moreover, impacts not only Petitioner, but also other inventors who relied on then-existing settled law that effectuated the plain meaning of 35 U.S.C. § 102(b).

CONCLUSION

For the foregoing reasons, Petitioner respectfully requests that the Court grant this Petition for Writ of Certiorari.

Respectfully submitted,

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APPENDIX

Opinion of the United States Court of Appeals for the Federal Circuit, dated September 8, 1997, cross-appeals from Final Judgment on Liability entered by trial court in 3:91-CV-1542-H ....App. 1

Final Judgment on Liability in 3:91-CV-1542-H (N.D. Tex. 1995) .....App. 21

Report and Findings of Fact and Conclusions of Law of Special Master in 3:91-CV-1542-H ...App. 23

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Order of the Untied States Court of Appeals for the Federal Circuit, dated October 3, 1997, denying Cross-Appellant's Petition for Rehearing .....App. 170

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Opinion of the United States District Court, No. S86-449 (N.D. Ind. 1988) (case 1).....App. 198

Decision of United States Court of Appeals for the Federal Circuit, dated August 31, 1989, 884 F.2d 1399 (case 1) .....App. 228

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Wayne K. PFAFF, Plaintiff/Cross-Appellant,
v.
WELLS ELECTRONICS, INC., Defendant-Appellant.

Nos. 96-1150, 96-1187.

United States Court of Appeals, Federal Circuit.

Sept. 8, 1997.

Rehearing Denied Oct. 3, 1997.

Barry L. Grossman, Banner & Allegretti, Ltd. of Washington, DC, argued for plaintiff/cross-appellant. With him on brief were Pamela I. Banner, Adriana S. Luedke, and Bradley C. Wright.

James D. Hall, Baker & Daniels, of South Bend, IN, argued for defendant-appellant. With him on brief were David C. Read and Robert D. Null. Of counsel on brief were David R. Melton and Gerard T. Gallagher, Barnes & Thornburg, of South Bend, IN.

Before ARCHER, Chief Judge, PLAGER, and SCHALL, Circuit Judges.

ARCHER, Chief Judge.

Wells Electronics, Inc. (Wells) appeals the judgment of the United States District Court for the Northern District of Texas, No. 3:91-CV-1542-H, involving U.S. Patent No. 4,491,377 ('377 patent) owned by Wayne K. Pfaff (Pfaff). The district court held that claims 1 and 6 of the '377 patent are invalid for anticipation, 35 U.S.C. § 102(b) (1994), that claims 7, 10, 11, and 19 are not invalid and that Wells' sockets infringed such claims. Wells appeals

the judgment as to infringement and validity. Pfaff cross-appeals the judgment of invalidity as to claims 1 and 6.

We hold that the invention disclosed in the '377 patent was on sale within the meaning of 35 U.S.C. § 102(b) or would have been obvious in view of that sale within the meaning of 35 U.S.C. §§ 102(b) and 103. Accordingly, the judgment of invalidity as to claims 1 and 6 is affirmed on other grounds and the validity judgment as to claims 7, 10, 11, and 19 is reversed.

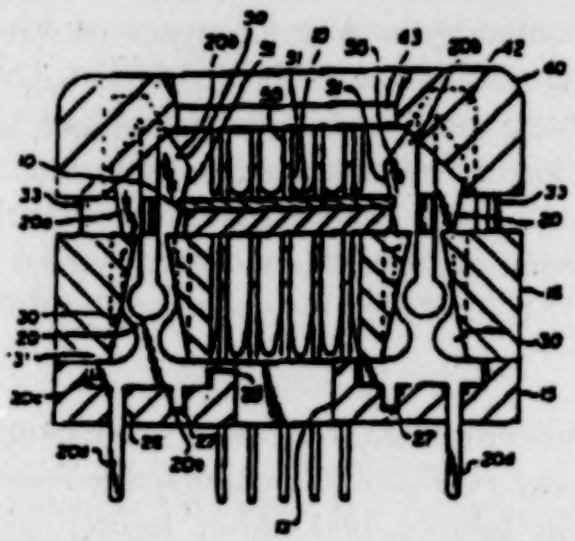
BACKGROUND

The '377 patent relates to sockets for testing leadless chip carriers. Claim 1 is representative and reads:

> 1. Mounting means for a leadless chip carrier comprising:
>
> (a) base support means having first and second oppositely disposed major faces;
>
> (b) a plurality of axially elongated conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces, the opposed inner edges of the ends of said pins extending from said first major face arranged to define a cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier in a plane parallel with said first major face and the inner edges of said pins converging slightly inwardly with distance from said first major face; and

> (c) unitary means operable independently of said leadless chip carrier reciprocally moveable axially with respect to said pins and coacting with said opposed inner edges of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween.

Figure 2 of the patent shows a sectional view of the socket:



The socket is comprised of three basic elements: a base support 15, a plurality of conductive pins 20, and a spreader 40. The chip carrier is placed in an opening in the spreader 40, which, when depressed, spreads apart the pins 20, by interaction of the lip 43 of the spreader 40 with the pins 20, to allow the carrier to fall into place between the pins 20 without applying any mechanical force to the carrier. When the spreader 40 is released, the pins 20 move back into their original positions, making

electrical contact with the carrier and locking it into place. In order to release the carrier, the spreader 40 is depressed, spreading the pins 20 and allowing the carrier to fall out through the opening in the spreader 40 when the socket is inverted.

In November 1980, Texas Instruments (TI) contacted Pfaff and asked him to develop a socket for its carriers. In a later meeting with TI representatives, Pfaff made a sketch of his concept and afterwards made detailed engineering drawings of the socket. Pfaff sent his drawings to a company called Weiss-Aug for customized tooling and production in February or March of 1981. On April 8, 1981, Delta V., a company acting on behalf of TI, issued a purchase order to Pfaff's company, Plastronics, for 30,100 sockets, which were intended for production use. The purchase order confirmed an earlier, verbal order on March 17, 1981. Pfaff filed his patent application on April 19, 1982.

Pfaff subcontracted the Delta V. socket order to Weiss-Aug and received the manufactured sockets from Weiss-Aug in July of 1981. After testing some of the sockets in a mechanical cycling machine that cycled them 72,000 times and finding no noticeable wear, the sockets were shipped to and accepted by TI.

This case is the second time Pfaff has sued Wells for infringement of the '377 patent. The first was appealed to this court and we upheld a finding of noninfringment and vacated the district court's holding that the patent was not invalid. *See Pfaff v. Wells Electronic, Inc.*, 884 F.2d 1399, 12 USPQ2d 1158 (Fed.Cir.1989) (Table).

Pfaff sued again after Wells modified its socket designs. The district court held on summary judgment that Wells' modified designs did not infringe the '377 patent. When that judgment was appealed to this court we reversed and remanded for further proceedings. *See Pfaff v. Wells Electronics, Inc.*, 5 F.3d 514, 28 USPQ2d 1119 (Fed.Cir.1993). On remand, the district court referred the case to a Special Master for a non-jury trial. The Special Master's Findings of Fact and Conclusions of Law were adopted by the district court as its opinion. The court held that claims 1 and 6 were invalid under 35 U.S.C. § 102(b) (1994) as being anticipated by a prior art reference. The court also held the claimed invention was not on sale within the meaning of § 102(b). Finally, the district court held that various models of Wells' sockets infringed the remaining claims. Both parties have appealed.

DISCUSSION

I. SECTION 102(b) ON-SALE BAR

Wells contends that claims 1, 6, 7, and 10[1] of the '377 patent are invalid because the invention claimed was on sale within the meaning of 35 U.S.C. § 102(b). That section provides that an inventor is not entitled to a patent if "the invention was . . . on sale in this country more than one year prior to the date of the application for patent in

---

[1] Because claims 11 and 19 contain a barb element that, as discussed below, arguably was not in the device offered for sale, the validity of these claims depends on whether they would have been obvious in view of the prior art and what was offered for sale.

the United States." The ultimate determination of whether an invention was on sale within the meaning of § 102 is a question of law that we review *de novo*. *See Manville Sales Corp. v. Paramount Sys., Inc.*, 917 F.2d 544, 549, 16 USPQ2d 1587, 1591 (Fed.Cir.1990). We review the factual findings underlying the on-sale determination for clear error. *Id.* at 549, 917 F.2d 544, 16 USPQ2d at 1591. In this case, there are no facts in dispute, leaving only the legal issue of whether the § 102(b) on-sale bar invalidates the patent. *See UMC Electronics Co. v. United States*, 816 F.2d 647, 657, 2 USPQ2d 1465, 1472 (Fed.Cir.1987).

The relevant inquiry is whether there was a definite sale or offer for sale of the claimed invention prior to the critical date, defined as one year prior to the U.S. filing date to which the application was entitled. *See Envirotech Corp. v. Westech Eng'g Inc.*, 904 F.2d 1571, 1574, 15 USPQ2d 1230, 1232 (Fed.Cir.1990). The foremost purpose of the on-sale bar is to "prevent[ ] inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term." *Ferag AG v. Quipp Inc.*, 45 F.3d 1562, 1567-68, 33 USPQ2d 1512, 1515 (Fed.Cir.1995). Thus, in making the determination as to whether the invention was "on sale," " '[a]ll of the circumstances surrounding the sale or offer to sell, including the stage of development of the invention and the nature of the invention, must be considered and weighed against the policies underlying section 102(b).' " *Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544, 41 USPQ2d 1238, 1243 (Fed.Cir.1997) (quoting *UMC*, 816 F.2d at 656, 2 USPQ2d at 1471-72).

The undisputed facts in this case show that the invention claimed in the '377 patent was commercialized

prior to the critical date of April 19, 1981. The district court found that a definite verbal and written purchase order for the later patented invention was received before the critical date. In a handwritten note on one of his engineering diagrams dated February 25, 1981, Pfaff indicated that the first order would be "for 500,000 springs (25,000 sockets)." On April 8, 1981, Pfaff's company received a written purchase order from Delta V. for 30,100 sockets for $91,155. The purchase order specified the materials to be used and the delivery date, and it noted that the order was a confirmation of a verbal order placed on March 17, 1981. *See Buildex Inc. v. Kason Indus.*, 849 F.2d 1461, 1464, 7 USPQ2d 1325, 1327-28 (Fed.Cir.1988) (holding the existence of a sales contract or the signing of a purchase order is sufficient to demonstrate "on-sale" status).

Additionally, Pfaff acknowledged in his testimony that, as a result of his meetings with TI, he had a "go" situation and that they had a "deal" prior to the critical date. Pfaff further admitted that the arrangement with TI was purely commercial, with no experimentation or additional development involved. *See UMC*, 816 F.2d at 657, 2 USPQ2d at 1472 ("Countering the prima facie case, UMC offers only the purely technical objection that no complete embodiment of the invention existed at the time of the sale. . . . However, the contract was not a research and development contract, and UMC admits that the offer it made was for profit, not to conduct experimental work."). Thus, there is no issue of experimental use in this case.

Although the invention was commercialized, it had not been reduced to practice at the time of sale because there was no physical embodiment of the invention. It

was for this reason alone that the district court did not apply the on-sale bar.

This court has held, however, that reduction to practice is not necessarily a prerequisite to application of the on-sale bar. *See UMC*, 816 F.2d at 656, 2 USPQ2d at 1471 ("[T]he on-sale bar does not necessarily turn on whether there was or was not a reduction to practice of the claimed invention."); *see also Petrolite Corp. v. Baker Hughes, Inc.*, 96 F.3d 1423, 1427, 40 USPQ2d 1201, 1204 (Fed.Cir.1996) ("[T]he thrust of the on-sale inquiry is whether the inventor thought he had a product which could be and was offered to customers, not whether he could prevail under the technicalities of reduction to practice. . . . " (quoting *Paragon Podiatry Lab., Inc. v. KLM Laboratories, Inc.*, 984 F.2d 1182, 1187 n. 5, 25 USPQ2d 1561, 1570 n. 5 (Fed.Cir.1993))).

Indeed, we have expressly rejected the notion that a physical embodiment is always required. *See Barmag Barmer Maschinenfabrik AG v. Murata Machinery, Ltd.*, 731 F.2d 831, 837, 221 USPQ 561, 565 (Fed.Cir.1984). In *Barmag*, we considered the Second Circuit's on-sale bar test as set out in *Timely Products Corp. v. Arron*, 523 F.2d 288, 302, 187 USPQ 257, 267-68 (2d Cir.1975), and departed from its restrictive approach. We noted that the *Timely Products* test was:

> that an offer to sell, without the existence of a physical embodiment of what is offered, does not start the running of the time period. It is not difficult to conceive of a situation where, because commercial benefits outside the allowed time have been great, the technical requisite of *Timely Products* for a physical embodiment, particularly for a simple product, would defeat the statutory policy and we, therefore, do not adopt the *Timely Products* test as the answer in all cases.

Barmag, 731 F.2d at 837, 221 USPQ at 565. Accordingly, the appropriate question is whether the invention was substantially complete at the time of sale such that there was "reason to expect that it would work for its intended purpose upon completion." *Micro Chem.*, 103 F.2d at 1545, 41 USPQ2d at 1244; *see UMC*, 816 F.2d at 657, 2 USPQ2d at 1472; *see also Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1167, 42 USPQ2d 1619, 1623 (Fed.Cir.1997) ("[A] sale or a definite offer to sell a substantially completed invention, with reason to expect that it would work for its intended purpose upon completion, suffices to generate a statutory bar." (quoting *Micro Chem.*, 103 F.3d at 1545, 41 USPQ2d at 1244)).

The undisputed facts show that Pfaff had completed engineering drawings accurately depicting the patented invention prior to the verbal purchase order of March 17, 1981, and the formal written order of April 8, 1981. These detailed drawings showed both precise dimensions and material requirements. According to the district court, these drawings "depict accurately the claimed invention and are very similar to the actual patent drawings used in the ['377] patent."

The only step not fully performed at the time of the sale was the customized tooling for manufacturing the invention. As the undisputed facts show, however, that step had already begun by the time of the sale. Around

February or March 1981, Pfaff sent his drawings to Weiss-Aug to prepare customized tooling and thereafter to "turnkey," or produce, the sockets in accordance with his normal business practice of going directly from the drawings to tooling and production without a prototype. This tooling was for production purposes and entailed making a stamping die, injection molds, customized rivets, and automated assembly equipment. Pfaff stated that the tooling process took five to six months in this particular case. The district court found that Weiss-Aug also produced at least one detailed fabrication diagram by March 31, 1981 and that Pfaff received the finished product in July of 1981.

The invention in this case is mechanical and there is no argument that it contains complicated components or involves a complex interaction of parts. The step of finishing the customized tooling was, therefore, routine and not a major step in the completion of an embodiment of the invention. Under all of the circumstances, including the completion of engineering drawings, the ordering of production tooling, and the commencement of fabrication of the tooling necessary to manufacture the invention for a specific customer, it is clear that more than a mere concept was on sale. The substantially completed socket had entered the production phase prior to the critical date and a specific purchase order was being filled.

Even though a prototype of the invention had not been built prior to the TI sale, the district court found that Pfaff was confident, based on his drawings, that this invention would work. Pfaff testified that it was his practice to produce his inventions without building any prototypes and that he had almost always been successful

with this approach. Indeed, that Pfaff expected his invention to work for its intended purpose is substantiated by the large sale to TI and the ordering of customized tooling.

Pfaff argues on appeal that the on-sale bar should not apply because no sockets had been tested prior to the critical date to ensure that the device would work. According to Pfaff's testimony, he feared that the pins would act as "a knife cutting through the cap." Given this concern, Pfaff contends that he could not have known that the invention would work prior to the 72,000 cycle test.

Testing, however, is not always necessary for the completion of an embodiment of an invention. *See Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1578, 38 USPQ2d 1288, 1291 (Fed.Cir.1996) (noting that "some inventions are so simple and their purpose and efficacy so obvious that their complete construction is sufficient to demonstrate workability"); *In re Asahi/America, Inc.*, 68 F.3d 442, 445, 37 USPQ2d 1204,1206 (Fed.Cir.1995) (same). Moreover, the invention need not "be in a commercially satisfactory stage of development." *Scott v. Finney*, 34 F.3d 1058, 1061-62, 32 USPQ2d 1115, 1118 (Fed.Cir.1994) (quoting *In re Dardick*, 496 F.2d 1234, 1238, 181 USPQ 834, 837 (CCPA 1974)).

By relying on the 72,000 cycle test, Pfaff did not show that he had doubts as to whether the socket would work for its intended purpose. The test was a fatigue test, not a functionality test, and only demonstrated that the socket

would work repeatedly under intensive use. Since durability was not a claimed requirement of the invention, the fatigue testing is irrelevant to the on-sale bar analysis.

Because durability is not a claimed or inherent aspect of the invention, Pfaff's reliance on *Seal-Flex, Inc. v. Athletic Track and Court Construction*, 98 F.3d 1318, 40 USPQ2d 1450 (Fed.Cir.1996), is inapposite. There, durability of the track surface was necessary to the efficacy of the invention. In contrast, the durability of the socket is not a requirement to the substantial completion of Pfaff's invention.

Pfaff also cites our decision in *Micro Chemical* to argue that his invention was not substantially complete. In *Micro Chemical*, however, a key part of the invention was missing entirely. At the time of the offer for sale, the inventor had made a prototype of a weighing system and a sketch of a mixing system, but he had not "designed the elements for isolating the weighing system" from the mixing system. *Micro Chem.*, 103 F.3d at 1544-45, 41 USPQ2d at 1243. The isolation means was not contained in the drawings or in the prototype of the weighing system. This critical part of the invention had not even been designed.

Pfaff also argues that the innovative nature of the invention weighs against the application of the on-sale bar. Pfaff appears to be suggesting that we should afford greater latitude under the on-sale bar to an innovative, or pioneer, patent, *see generally* 4 Donald S. Chisum, *Patents* § 18.04[2] (1996). Pfaff has not cited any authority or put

forth a persuasive reason for making such a differentiation in the on-sale bar context, assuming *arguendo* that this invention would be considered pioneering.

We have considered, but are not persuaded by, Pfaff's other arguments because we are satisfied that the evidence establishes that Pfaff's invention was substantially complete at least by the time of the pre-critical date offer to sell and receipt of the purchase order. For these reasons, we conclude that the invention of claims 1, 6, 7, and 10 was on-sale within the meaning of § 102(b) and that these claims are invalid.

II. SECTION 102(b)/103 ON-SALE BAR

As to the remaining claims, Pfaff argues that, even if the invention in claims 1, 6, 7, and 10 was on sale, claims 11 and 19 are distinguishable because these claims contain a barb element which is absent from the engineering diagrams. Claim 19 states:

> 19. Mounting means for a leadless chip carrier comprising:
>
> (a) a support housing having first and second oppositely disposed major faces;
>
> (b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, the free ends of said contact means extending from said first major face arranged to define a cavity rectangular in dimensions in a plane substantially parallel with said first major face, the ends of said contact means

defining said cavity having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face;

(c) spreader means comprising a substantially rectangular body arranged substantially parallel with said first major face and reciprocally moveable axially with respect to said contact means, said spreader means having a surface inclined with respect to the axes of said contact means and mating with the inclined inner edges of said contact means whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity; and

(d) *barb means projecting inwardly from the inwardly inclined edges of said contact means.*

(Emphasis added). Claim 11 depends from claim 7, invalidated above, and adds the limitation that "the inwardly inclined edges of said contact means include an inwardly projecting barb."

The on-sale bar is not limited solely to a sale of, or an offer to sell, a product that anticipates the later patented invention. It also applies if "the subject matter of the sale or offer to sell . . . would have rendered the claimed invention obvious by its addition to the prior art." *UMC*, 816 F.2d at 656, 2 USPQ2d at 1472. In effect, what was offered for sale before the critical date becomes "a [prior art] reference under section 103 against the claimed invention." *Baker Oil Tools v. Geo Vann, Inc.*, 828 F.2d 1558,

1563, 4 USPQ2d 1210, 1213 (Fed.Cir.1987). Because of the conjunctive use of sections 102(b) and 103, this bar has been called the § 102(b)/103 bar. *See LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071 n. 3, 22 USPQ2d 1025, 1028 n. 3 (Fed.Cir.1992); *In re Corcoran*, 640 F.2d 1331, 1333, 208 USPQ 867, 869 (CCPA 1981).

Because both on-sale and obviousness determinations are questions of law that we review *de novo*, *see Manville Sales Corp.*, 917 F.2d at 549, 16 USPQ2d at 1591; *B.F. Goodrich Co. v. Aircraft Breaking Systems Corp.*, 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1317 (Fed.Cir.1996), the ultimate determination of obviousness under the § 102(b)/103 bar is necessarily also a question of law subject to *de novo* review. *Cf. Ferag*, 45 F.3d at 1566, 33 USPQ2d at 1514; *Envirotech*, 904 F.2d at 1574, 15 USPQ2d at 1232 (both discussing obviousness under on-sale bar rubric and noting on-sale determination is a question of law).

We review the factual determinations underlying the § 102(b)/103 obviousness determination for clear error. *See KeyStone Retaining Wall Sys., Inc. v. Westrock, Inc.*, 997 F.2d 1444, 1451-52, 27 USPQ2d 1297, 1303 (Fed.Cir.1993); *cf. Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568-69, 1 USPQ2d 1593, 1597-98 (Fed.Cir.1987); *Manville Sales Corp.*, 917 F.2d at 549, 16 USPQ2d at 1591. A finding of fact is clearly erroneous when, "although there is evidence to support it, the reviewing court is left with the definite and firm conviction that a mistake has been committed." *Buildex*, 849 F.2d at 1464, 7 USPQ2d at 1328 (citing *Anderson v. City of Bessemer City*, 470 U.S. 564, 573, 105 S.Ct. 1504, 84 L.Ed.2d 518 (1985)). In any obviousness determination, the following factors are relevant: the

scope and content of the prior art, the differences between the prior art and the claims, the level of ordinary skill in the art at the time of the invention, and objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17, 86 S.Ct. 684, 693-94, 15 L.Ed.2d 545 (1966).

Figure 4 from the '377 patent illustrates the barb element (51a) at issue.

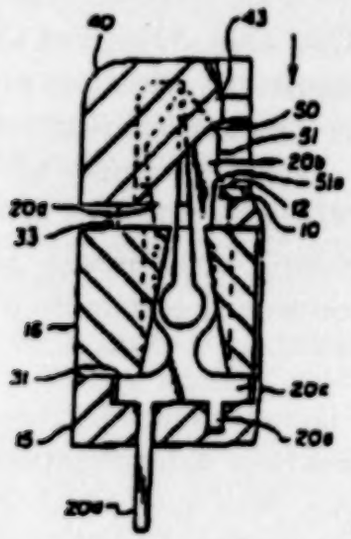


Fig. 4

According to the written description, the "barb" is used to "scrape the surface of the lands 11 to remove any oxidation therefrom and thus form good electrical contact with the lands 11 while also acting to retain the leadless chip carrier within the cavity." Col. 5, line 66 to col. 6, line 2. The barb is the only element arguably missing from what was offered for sale.

The district court evaluated the obviousness of the barb element in the context of § 103 and held that the barbs were not taught in the prior art and, thus, were not obvious. In reaching this conclusion, the district court summarily determined that the "AMP references" and the "TO-5 Contactor" reference did not teach the use of barbs.[2] The court, however, failed to evaluate two of the AMP references presented by Wells: U.S. Patent No. 4,262,984, issued to Takahashi (Takahashi) on July 19, 1979, and U.S. Patent No. 3,216,580, issued to Fricker (Fricker) on November 9, 1965. Review of these references convinces us that the district court clearly erred in determining that the barb element was not taught in the prior art.

Takahashi discloses an electric contact terminal member. The terminal member has a temporary holding slot to hold an electrical cable before it is pressed into the conductor slot in which electrical contact is made. The inside surfaces of the terminal "arms 5b have opposed temporary holding projections 5c which project into the cable holding slot 5e, to temporarily hold the cable 4a in the cable holding slot 5e," as shown in Figure 2 from the patent.

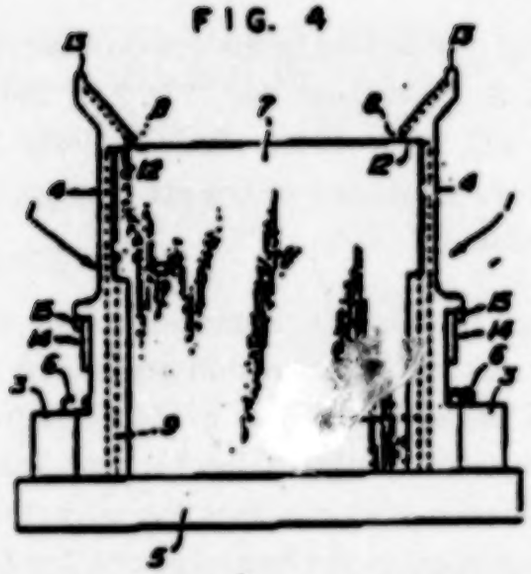
---

[2] The district court seemingly based its § 103 nonobviousness determination primarily on its view that "[n]o combination of prior art suggested by Wells teaches all of the limitations in claims 11 and 19." In the context of a § 103 obviousness determination, this conclusion may be correct. Here, however, the only element not on sale was the barb.

FIG.2
(A)

Likewise, Fricker discloses a support device for retaining card-like devices in a base. Fricker notes that "the card element 7 may be a printed circuit carrying card which is inserted into a multiple contact plug in base 5." In order to hold the card in place, "the upper member 2 may project over the top of card 7 in a fully inserted position. In this case, the bottom edge 12 of member 2 would bear against the top edge of card 7," as shown in Figure 4 of the patent.

FIG. 4



Both pieces of prior art teach using a barb-like element to hold the desired object into place. Additionally, both consider uses in electrical settings, and Fricker particularly notes the use of the barb element to hold the object in a position to maintain electrical contact. Similarly, the barb in the Pfaff patent is used to hold the carrier in place, even though it also scrapes oxidation from the carrier and provides electrical contact. Notwithstanding these additional features, the teachings of Fricker and Takahashi thus provide sufficient motivation to combine the barb-like element in the prior art with what was offered for sale to yield the invention in claims 11 and 19. *See In re Kemps*, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1311 (Fed.Cir.1996) (noting motivation to combine in prior art need not be identical to that of applicant) (citing *In re Dillon*, 919 F.2d 688, 693, 16 USPQ2d 1897, 1901 (Fed.Cir.1990) (in banc)).

Unrebutted expert testimony also demonstrates that the motivation to combine the prior art to lock an object in place with barb elements would be provided by the

knowledge of one skilled in the art. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 2871, 297 n. 24, 227 USPQ 657, 667 n. 24 (Fed.Cir.1985) (noting that knowledge of one skilled in the art may provide motivation to combine).

Although the district court determined that the commercial success of the invention supported a finding of nonobvious under § 103, this evidence is insufficient to rebut the clear teachings of Fricker and Takahashi. Further, no evidence suggests that the socket's commercial success was related to the barb element. *See Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539, 218 USPQ 871, 879 (Fed.Cir.1983) (requiring nexus between merits of invention and evidence of secondary considerations).

Accordingly, we conclude that the invention of claims 11 and 19 would have been obvious in light of the prior art and the socket that was on sale. These claims are, therefore, invalid under § 102(b)/103.

CONCLUSION

Because all of the claims at issue are invalid, we need not reach the other issues raised in the appeal and cross-appeal.

AFFIRMED-IN-PART AND REVERSED-IN-PART.

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

WAYNE K. PFAFF, Plaintiff, v. WELLS ELECTRONICS, INC. Defendant.	§ § § § § § § § §	Civil Action No. 3:91-CV-1542-H (Filed Dec. 29, 1995)

FINAL JUDGMENT ON LIABILITY

The above case was tried without a jury on the bifurcated issue of liability before a Special Master pursuant to Fed.R.Civ.P.53. The Special Master determined all liability issues regarding any infringement of United States Patent No. 4,491,377 by Defendant Wells Electronics, Inc., as well as any issues regarding the invalidity of the patent-in-suit. Only Claims 1, 6, 7, 10, 11 and 19 were at issue. After adoption on October 25, 1995, of the REPORT AND FINDINGS OF FACT AND CONCLUSIONS OF LAW OF THE SPECIAL MASTER, the Court hereby expressly determines that there is no just reason for delay and directs entry of the following JUDGMENT on the issue of liability:

1. Claims 1 and 6 of U.S. Patent No. 4,491,377 are invalid, and thus are not infringed by any of the Wells socket devices.

2. Claims 7, 10, 11 and 19 of U.S. Patent No. 4,491,377 are not invalid.

3. The Wells Model No. 647 device infringes Claims 7 and 10, but does not infringe Claims 11 or 19.

4. The Wells Model No. 653 device infringes Claims 7, 10 and 11, but does not infringe Claim 19.

5. The Wells Model No. 667 device infringes Claims 7 and 10, but does not infringe Claims 11 or 19.

6. The Wells Model No. 668 device as shown in Plaintiff's Exhibit 179 infringes Claims 7 and 10, but does not infringe Claims 11 or 19. The remaining embodiments of the Wells Model No. 668 devices do not infringe Claims 7, 10, 11, or 19.

7. The Wells Model Nos. 642, 648, 649, 652 and 663 devices do not infringe Claims 7, 10, 11 or 19.

The bifurcated issue of damages is STAYED pending disposition of all appeals regarding the issues of infringement and validity.

SIGNED this 29 day of December, 1995.

/s/ Barefoot Sanders
BAREFOOT SANDERS, JUDGE
UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

WAYNE K. PFAFF, *Plaintiff,* v. WELLS ELECTRONICS, INC., *Defendant.*	§ § § § § § §	Civil Action No. 3-91-CV-1542-H (Filed Oct. 19, 1995)

REPORT AND FINDINGS OF FACT AND CONCLUSIONS OF LAW OF SPECIAL MASTER

This report of the Special Master is submitted pursuant to Fed. R. Civ. P. 53(e)(1) on October 19, 1995. It has been prepared following a hearing before Judge Sanders on August 23, 1995. At the end of this hearing, Judge Sanders made a number of rulings with instructions to the Special Master to modify the definition of "axially elongated" appearing in Section 5b. of this report. The second instruction resulted in the addition of two new Sections 5m. and 6d. directed to the word "rectangular" contained in the patent claims.

The Special Master prepared a number of draft reports and submitted them to the parties for their comments before submitting a final report to Judge Sanders. Following each draft submission, modifications were made by the Special Master. These drafts and modifications are summarized briefly below. A draft report with findings only with respect to the issues of infringement was submitted to the parties on October 24, 1994. Both parties replied with comments some of which resulted in

changes to the infringement portion of this report. A second draft adding patent validity issues was submitted to the parties on March 2, 1995. Both parties responded on April 3, 1995 with comments. Substantive changes were made in this report in Sections 5b., 5e. and 10d. in response to the parties comments and recent Federal Circuit decisions, particularly the *Comair* case cited in Section 5b. These substantive changes were incorporated in a third draft report of the Special Master filed on May 10, 1995 with the clerk who distributed it to the parties. The defendant submitted a full English translation of Japanese patent application Exhibit ALA, and both parties submitted comments on the third draft report. Substantive changes were made to Section 10c. regarding the Japanese patent application and incorporated in a final report submitted on July 3, 1995. Both parties filed objections to the final report and Judge Sanders held a hearing on August 23, 1995. Judge Sanders instructed the Special Master to make the two modifications identified above and indicated that the report would then be adopted without further argument or hearing.

The patent infringement issues and one new prior art validity issue regarding the Japanese patent application were tried before the Special Master in this court on July 5-8, 1994 without a jury. The other validity issues were tried before the United States District Court for the Northern District of Indiana (Indiana Court) on July 18-20, 1988 without a jury. By stipulation of the parties in this case, the transcript and exhibits in the Indiana Court form the basis for the findings in this court with regard to the other validity issues. The issue of patent damages has

been bifurcated and discovery stayed until final determination of the liability issues.

The plaintiff in this suit, Wayne K. Pfaff, is an individual residing in Irving, Texas. The defendant is Wells Electronics, Inc., an Indiana Corporation, having its principal place of business in South Bend, Indiana. This court has jurisdiction of the subject matter of this action pursuant to 28 U.S.C. § 1338(a) and 35 U.S.C. § 281. Venue in this court is proper pursuant to 28 U.S.C. § 1391(c) and § 1400(b).

1. Prior Proceedings

Plaintiff, Pfaff, sued Defendant, Wells, in the Indiana Court alleging that two of Wells' devices[1] infringed on Plaintiff Pfaff's patent 4,491,377 ("Pfaff patent"). Pfaff asserted that claims 1 and 6-10 of its patents were infringed by the two Wells devices. The Indiana Court found that the Pfaff patent was not infringed by the two Wells devices, and that the patent was not invalid.[2] The Court of Appeals for the Federal Circuit affirmed the Indiana Court's decision of non-infringement rendering "moot Wells' cross-appeal on invalidity" in accordance with the Court of Appeals for the Federal Circuit procedure at that time.[3]

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[1] Defendant Exhibits C-1 and C-2.

[2] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d 1366 (N.D. Ind. 1988).

[3] *Pfaff v. Wells Electronics, Inc.*, 12 USPQ2d 1158 (Fed. Cir. 1989).

Pfaff is now suing Wells in this case for infringement of the same patent, on six other Wells devices developed subsequent to the Indiana Court's decision.[4] Wells contends that the patent is not infringed, and once again that the patent is invalid, adding one additional piece of prior art, the Japanese patent application, that was not before the Indiana Court.

In this case, Wells filed a Motion for Summary Judgment that none of the six accused devices infringed the asserted claims 1, 6, 7, 10, 11 and 19 of the Pfaff patent. This court granted Wells' Motion for Summary Judgment, and the Court of Appeals for the Federal Circuit reversed and remanded for further proceedings.[5]

2. Invention in the Pfaff Patent

The patented invention is a socket for testing leadless chip carriers. A leadless chip carrier is a surface mountable circuit device package containing a semiconductor chip carrier and may take many geometric forms.[6] The computer chip carrier can be inserted into a socket for testing and thereafter removed from the socket. The Pfaff

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[4] Defendant Exhibits D-1 through D-6.

[5] *Pfaff v. Wells Electronics, Inc.* 5 F.3d 514, 28 USPQ2d 1119 (Fed. Cir. 1993).

[6] "Some leaderless [sic] chip carriers actually have small J-type leads that wrap around the edge of the carrier and are adapted for surface mounting of the carrier on a printed circuit board rather than insertion through the circuit board. More precisely, 'leaderless chip carrier' is a term of art designating a surface-mountable chip carrier." *Pfaff v. Wells Electronics, Inc.* 9 USPQ2d at 1367, n.1 (N.D. Ind. 1988).

patent invention is referred to as a "zero insertion force" socket since the chip carrier is inserted into operative position without applying any force to the chip carrier itself. The socket has pins or contacts to make electrical connection to the chip carrier. The pins can be opened and closed so that the chip carrier can be inserted and removed merely by pressing and releasing a cap-type spreader.

The socket of the invention contains three basic elements: a base support; a plurality of conductive pins; and a cap or "spreader".

The socket of the Pfaff patent generally operates as follows:

(1) A computer chip carrier is positioned within the rectangular opening in the top or lid;

(2) The lid is pressed downward;

(3) The lid presses against the pins to spread the pins slightly, thereby allowing the chip carrier to fall into its proper, secured, operating position; and

(4) The lid is released, allowing the lid and the pins to spring back toward their original positions.

To remove the computer chip carrier:

(1) The socket is inverted;

(2) The lid is pressed, thereby spreading the pins and releasing the computer chip carrier from its secured position; and

(3) The computer chip carrier simply falls out of the socket.

A feature of the Pfaff patent is using a unitary cap to uniformly spread the ends of the pins by contact with the inner edges of the pins. The pins are axially elongated and cooperate with the cap to allow spreading. The pins spread to the open position to avoid damage to either the chip carrier or pins during insertion or removal of the chip carrier.

In order to operate properly, the pins contact the chip carrier in a manner to secure it in place during testing. To accomplish this, the pins have a converging inner edge portion which, in the closed position, secures the carrier in place.

The basic elements of the Pfaff patent invention are shown in Figure 2 of the Pfaff patent.[7] Element 15 is the base support; element 16 is the intermediate housing support; elements 20 are the conductive pins; and element 40 is the lid or spreader.

The conductive pins define a central cavity into which the computer chip carrier is inserted. The pins may include a barb 51a, outwardly diverging edges 50, inwardly inclining edges 51, base 20c, stud 20e, shank 20d and a curved portion (not numbered) adjacent to the base (Figures 4 and 5, Column 5, Lines 56 through Column 6, Line 2).

Operation of one embodiment of the invention is illustrated in Figures 4 and 5 of the patent shown below.

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[7] U.S. Patent 4,491,337, Plaintiff Exhibit 3.

Figures 4 and 5 of Pfaff Patent 4,491,377

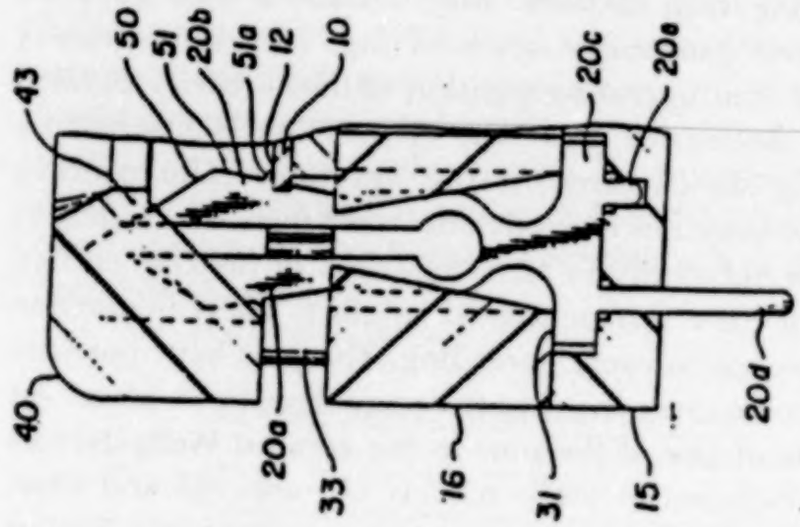


Fig. 5

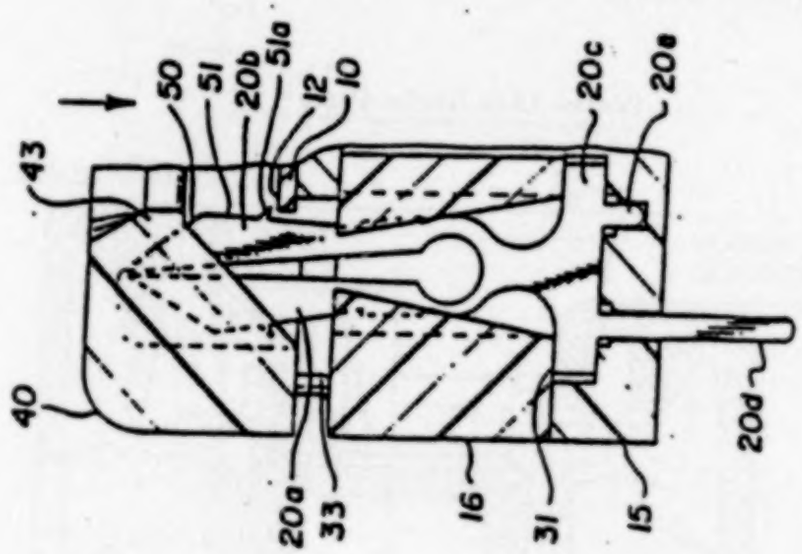
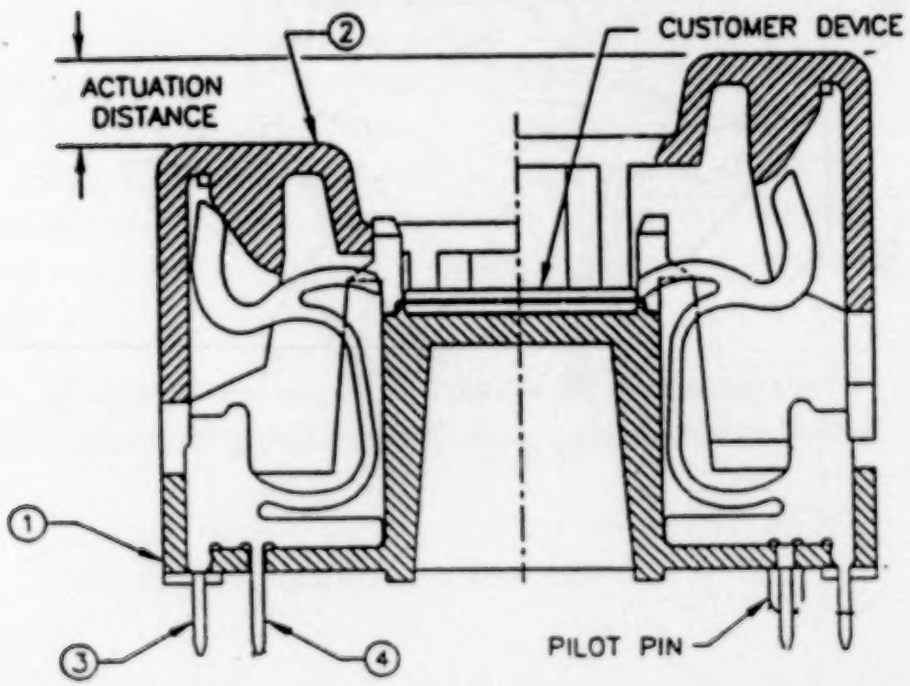


Fig. 4

3. Wells Accused Sockets

The accused Wells sockets are housings or mountings for testing chip carriers. They include a base support, conductive pins and a spreader cap. The chip carrier is inserted into operative position within a cavity defined by the conductive pins. The chip carrier is inserted by pressing downward on the spreader. The unitary spreader provides a positive outward force which pushes the pins outwardly to allow insertion of the chip carrier. The pins have sufficient axial length to allow interaction with the cap to cause spreading. The pins have portions which move over the chip to secure the chip in place. An example of one of the pins in the accused Wells devices which is found in Wells models 653 and 663 and illustrated in Defendant's Exhibit D-2 and Plaintiff's Exhibit 175 is shown below.

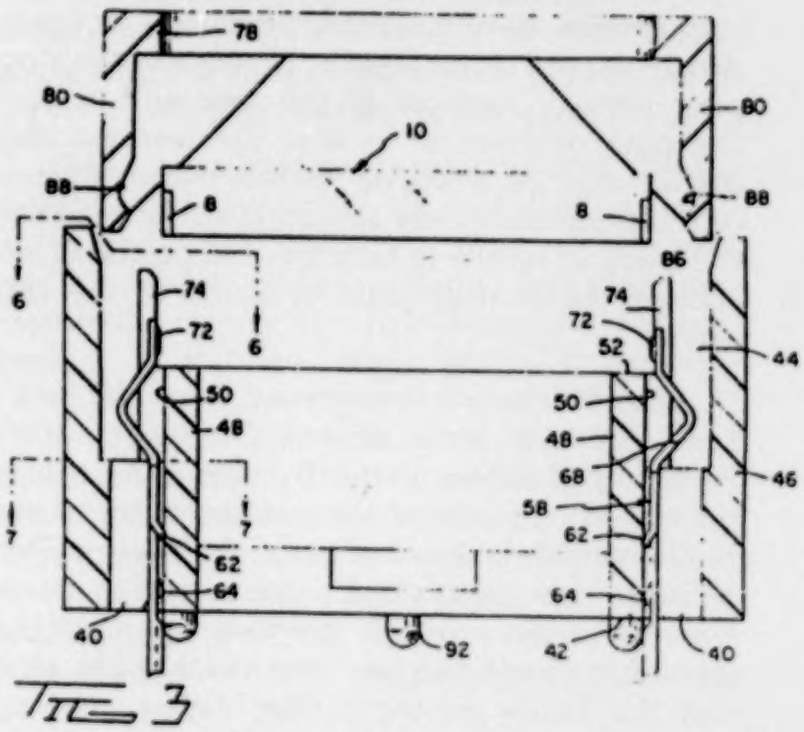
Wells D-2 Style Pins



4. Prosecution History of the Pfaff Patent

The Pfaff patent 4,491,377 was filed in the United States Patent and Trademark Office on April 19, 1982 and issued on January 1, 1985. There were two Office Actions rejecting the Pfaff patent application and five United States patents were cited as prior art against the Pfaff patent.[8] In the first Office Action, the Examiner rejected claims 1, 6, 7, 10 and 11 under 35 U.S.C. 102(b) as being clearly anticipated by Pauza, et al.[9] Figure 3 of the Pauza patent is shown below.

Pauza Patent Cited As Prior Art



[8] For prosecution history, see Defendant Exhibit B.

[9] U.S. Patent No. 3,753,211, Defendant Exhibit ABC.

Pfaff's patent attorney argued that the Pfaff invention was different from the Pauza reference. In the remarks responding to the Examiner's first Office Action, Pfaff's attorney described the invention.

> . . . Zero insertion force sockets for burn-in boards are even more advantageous since they permit automated mechanized loading of the socket with no pressure (other than gravity) ever being applied to the carrier itself. This is accomplished in the invention as claimed by providing a camming surface on the interior surface of the pins coacting with reciprocally moveable spreading means which has an aperture therein larger than the periphery of the chip carrier. As the spreader means is independently moved downwardly, it contacts the slopping interior surfaces of the pins and spreads the pins outwardly so that the leadless chip carrier may be dropped therebetween. Release of the pressure on the camming surface permits the leads to return to their normal positions and contact the contact pads or lands of the chip carrier.

The Pauza, et al reference is clearly not a zero insertion force device. On the contrary, Pauza, et al shows vertically extending contact pins which contact the outer edges of the carrier as the carrier is inserted into the socket. Thus pressure must be applied to the carrier to spread the contact pin arms 70. It will be apparent that contact is made between the contact pin at 72 and the lands on the carrier *during insertion*. Thus pressure must be applied to the carrier to insert the carrier into the socket. The closure lid operates on the knee 69 of the contact pin to cause the contact area 72 of the pin to move

vertically and thereby wipe the contact pad on the carrier to assure uniform electrical conduct. However, it is quite clear that Pauza, et al disclose no means other than the chip carrier itself to spread the contact pins of the socket.

Claim 1 (as originally written) included such language as "the inner edges of said pins converging slightly inwardly with distance from said first major face" and "means for uniformly spreading the ends of said pins extending from said major face to permit the insertion of a leadless chip carrier therebetween." Pauza, et al clearly fail to show or remotely suggest any such structure. The closure lid of Pauza, et al does not provide means for spreading the ends of the pins. Instead, Pauza, et al provide means for moving the ends of the contact pins *vertically* to rub or wipe the lands on the carrier.

> Claim 1 (as now amended) includes "means operable independently of said leadless chip carrier and coacting with the *inner edges* of said pins" (emphasis added). Claim 1 has thus been amended to clearly note that the spreader means operates on the *inner* edges of the pin (as contrasted to the outer edge as shown in Pauza, et al). It is respectfully submitted, therefore, that the structure defined by claim 1 is wholly foreign to the structure disclosed by Pauza, et al. Likewise, claim 7 has been amended to note that the spreader means meets with the inclined *inner* edges of the contact means rather than the outer edges of the contact means as disclosed by Pauza, et al.[10]

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[10] Claims 1 and 7 as issued in the Pfaff patent are presented below. Pending claims 1 and 7 kept their same numbers when

There can be no ambiguity after referring to the Pauza pin 58 shown in Figure 3 above, determining

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issued, but were amended during the prosecution of the Pfaff patent.

1. Mounting means for a leadless chip carrier comprising:

(a) base support means having first and second oppositely disposed major faces;

(b) a plurality of axially elongated conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces, the opposed inner edges of the ends of said pins extending from said first major face arranged to define a cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier in a plane parallel with said first major face and the inner edges of said pins converging slightly inwardly with distance from said first major face; and

(c) unitary means operable independently of said leadless chip carrier reciprocally moveable axially with respect to said pins and coacting with said opposed inner edges of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween.

7. Mounting means for a leadless chip carrier comprising:

(a) a support housing having first and second oppositely disposed major faces;

(b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions in a plane substantially parallel with said first major face, the ends of said contact means defining said cavity having edges which incline inwardly toward said cavity in

which edge is the outer edge, or which is the inner edge. Clearly the lower ends of the flanges 80 on the closure lid operate on the outside edge of the knee 69 of the contact pin 58 to push it toward the center of the Pauza device containing the chip carrier. It is just as clear that the inner edge of the Pauza pin 58 is the side facing the chip carrier. The language inserted into the claim by Pfaff's attorney in response to the Examiner's first Office Action rejection, simply defined which side of the pin made contact with the camming surface of the spreader cap in the Pfaff invention. In Figures 4 and 5 of the Pfaff patent shown above this would be the right side of the pin 20.

In the second Office Action, the Examiner once again rejected claims 1 and 7 under 35 U.S.C. 102(b) as being anticipated by Anhalt.[11] Anhalt zero insertion force connector is illustrated in Figure 2 of the Anhalt patent below.

---

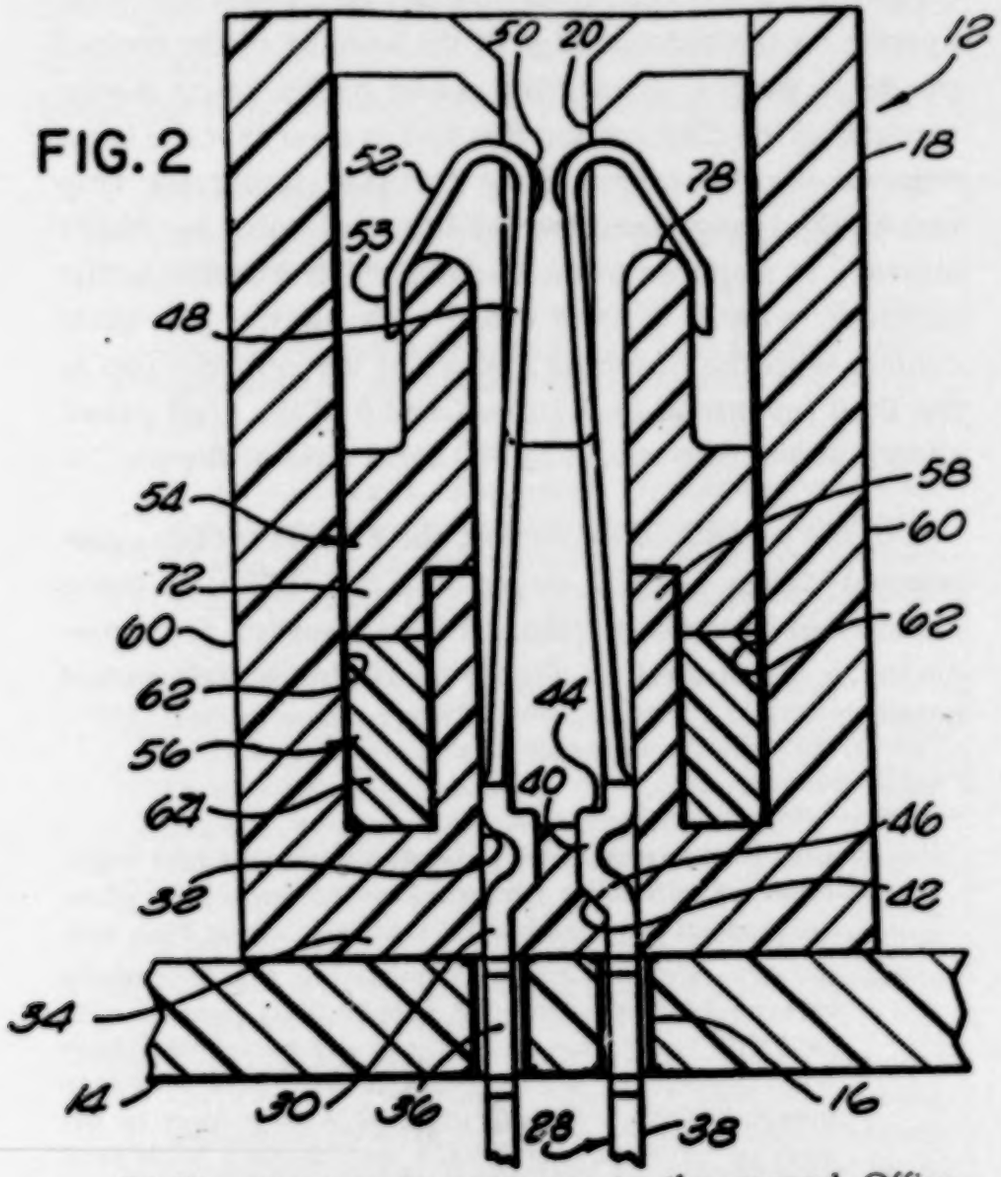
said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face; and

(c) unitary spreader means comprising a substantially rectangular body arranged substantially parallel with said first major face and reciprocally moveable axially with respect to said contact means, said spreader means having a surface inclined with respect to the axes of said contact means and mating with said inclined inner edges of said contact means whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity.

[11] Anhalt Patent 4,159,861, Defendant Exhibit ABF.

Anhalt Patent Cited As Prior Art

FIG. 2



Pfaff's attorney, in response to the second Office Action, further amended claim 1 by adding the words "opposed inner edges of the" in paragraph (b) of claim 1. In the remarks responding to the second Office Action,

Pfaff's patent attorney distinguishes over the Anhalt patent.

> . . . This reference discloses a socket for a circuit board or the like. The Anhalt device is a zero insertion force socket with normally closed contacts. The contact arms extend upwardly through a base support and are biased toward each other to firmly grasp the lands on a circuit board inserted therebetween. The free ends of the contacts are rolled outwardly and downwardly to form a camming surface spaced *outwardly* from the contacting surface. An internally mounted pair of spreaders 54 reciprocate axially with respect to the contact means to engage the outwardly sloping remote ends of the contact means and to thus spread the contacts.
>
> Note that the spread means 54, while moving coaxially with the contact means, is formed by an *unconnected pair* of vertically moveable members. Furthermore, each is internally mounted and has camming surfaces on its underside which coact with mating camming surfaces on a laterally or radially moving (with respect to the contact means) cam shift which, in turn, is connected to a cam shift lever 84.
>
> The invention as defined in applicant's claim 1 similarly has a plurality of pins extending from a base support plate which are biased to a normally closed position. However, the similarity between applicant's invention and the reference ends there. In applicant's device, the spreader means is a *unitary means* moveable axially with respect to the contact pins but with only a single camming surface. This camming surface mates with the *opposing inner edges* of the

contact means (see paragraphs (b) and (c) of claim 1) rather than folding over outer edges as shown in the reference. Furthermore, applicant's device specifically defines a *unitary* spreader. In other words, instead of a pair of spreaders activated by a pair of mating cams activated by a actuating lever (five different complicated parts interconnected by a pin), applicant's device uses a *single unitary* part radically simplifying the design and cost of manufacture. The unitary design also greatly improves reliability since it has only one moving part as contrasted to six interrelated moving parts in the reference. By using the unitary design of applicant's invention and adapting the spreader camming surface to mate with the *internal* edges of the contact pins (rather than the *external* edges as in the reference), a completely different mode of operation is produced.

It is respectfully submitted that since claim 1, as now presented, specifically defines a *unitary* spreader which coacts with the *inner edges* of the contact pins defining the cavity in which the chip carrier is mounted, the claims specifically and distinctly defines structure neither shown nor even remotely suggested by the Anhalt reference. Claim 6 is directly dependent from claim 1 and thus includes all the limitations thereof. Accordingly, it is respectfully submitted that claims 1 and 6 are clearly patentable over Anhalt for the reasons set forth here and above.

Claim 7 (the only other independent claim) has also been amended to specifically recite that the contact means are arranged with their *inner* edges defining a rectangular cavity and that a

unitary spreader means having an inclined surface mates with the inclined *inner edges* of the contact means to spread the contacts. As pointed out hereinabove with respect to claim 1, the Anhalt reference does not show a *unitary* spreader means. Instead, the Anhalt spreader comprises five different parts interconnected by a connecting pin and *does not coact with the inner edges*. Instead, it cams against the *outer edges* of the pins. Accordingly, it is respectfully submitted that claim 7 defines structure which is neither shown nor suggested by Anhalt and which operates in a mode quite differently from Anhalt. It is therefore respectfully submitted that claim 7 is likewise patentable over Anhalt for the reasons set forth hereinabove.

Once again, Pfaff's patent attorney is attempting to define through amendment the difference between the spreader coacting with the inner edge of the pin as opposed to the outer edge of the pin. The Anhalt reference is a little more complex than the Pauza reference, but nevertheless presents no difficulty in identifying which edges of the Anhalt contact pin 48 is the inner edge and which is the outer edge. Clearly, the edge of the Anhalt pin 48 which contacts the circuit board is the inner edge. The other side of the Anhalt pin 48 is the outer edge. The upper portion of the pin 48 is bent over so that in the region of arm 52 the outer edge of the pin 48 faces inwardly toward the circuit board. Carrying this claim language as presented to the United States Patent and Trademark Office by Pfaff's patent attorney to its logical end, the inner edge of the Anhalt pin 48 meets the outer edge of the pin 48 at the termination of the arm 52 in end section 53. Using the explanation given by Pfaff's patent

attorney in the remarks responding to both the second Office Action and the first Office Action, it is clear that the camming surface of the means for retracting the contact pins 48 designated 54 in Figure 2 of the Anhalt patent meets with the outer edge of the pin 54. Since the camming member 54 is moving up from the bottom of the pin 48 in Anhalt, it moves the pin 48 outward away from the circuit board. In the Pauza patent reference, the cam or flange 80 moves downward contacting the outer edge of the Pauza pin 58 to force the pin inward. In each case, Pauza and Anhalt, the references show a camming action cooperating with the outside edge of the contact pins. This has been distinguished from the Pfaff invention where the claims were amended to call for the spreader cap to engage the inner edge of the pin 20.

The Examiner then allowed claims 1 and 7 as well as other claims pending in the Pfaff patent application at that time.

Pfaff's patent attorney also amended paragraph (b) of claim 1 to insert the words "axially elongated" in the first line. No mention was made in the remarks concerning "axially elongated". Claim 7 as originally filed already had the words "axially elongated" included in its paragraph (b).

INFRINGEMENT

5. Literal Infringement

Patent infringement analysis requires a two-step inquiry: a threshold question of claim interpretation, followed by a determination of whether the properly interpreted claims encompass the accused structure. *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 126 USPQ2d 1018 (Fed. Cir. 1993). The first inquiry is a question of law, and the second is a question of fact. *Minnesota Mining and Mfg. Co. v. Johnson and Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992).

To establish infringement of a patent, every limitation set forth in a claim must be found in an accused product or process exactly (literal infringement) or by a substantial equivalent (the doctrine of equivalents) *Johnson v. IVAC Corp.*, 885 F.2d 1574, 12 USPQ2d 1382 (Fed. Cir. 1989). Claim interpretation involves a review of the claim language, the specification, the prosecution history, and, if necessary, extrinsic evidence, such as expert testimony. *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 26 USPQ2d 1018 (Fed. Cir. 1993).

Pfaff has alleged that six types of burn-in sockets made by Wells infringed claims 1, 6, 7, 10, 11 and 19 of the Pfaff patent. The structure and operation of the six accused Wells socket types generally represented by Defendant's Exhibits D-1 through D-6 are shown in detail by the following exhibits, drawings, specimens and models:

TABLE X – SIX ACCUSED WELLS SOCKET TYPES

Exhibit No.	Wells Model No.	Wells Drawing No.	Plaintiff's Exhibit No.
D-1 (PX 59)	642	642-126XXXX	150
		031-045-XXX	151
		031-050-XXX	152
		Catalog Page No. 25	153
		Specimen	119 117 (enlarged)
		Sample Pin Model	118 120
D-2 (PX 60)	653	1071XXX	170
		1072XXX	171
		Catalog Page No. 3	173
		Specimen	174 121 (enlarged)
		Sample Pin Model	122 124
D-2	663	663-240XXXX	175
	653	653-12818X1-100	184
		Specimen	123
	663	648-0322011	157
D-3 (PX 61)	648	001-XXX-004 (Sheet 2)	158
		Catalog Page No. 9	159
		Specimen	127 125 (enlarged)

		Sample Pin	126
		Model	128
D-3	649	649A0262011-A01	160
(PX 61)		001-XXX-011	161
		Catalog Page No. 11	162
		Specimen	163
D-3	652	652B0082211	164
(PX 61)		001-XXX-022 (Sheet 1)	165
		001-XXX-022 (Sheet 2)	166
		Catalog Page No. 19	167
		Specimen	168
D-3	653	653-0824-XX-300	183
(PX 61)		653-04412XX-100	169
		1073XXX	172
D-4	667	667-B461111-208	176
(PX 62)		106XXX	177
		Catalog Page No. 1	178
		Specimen	111 109 (enlarged)
		Sample Pin	110
D-5	668	668-4003XXX	179
(PX 63)		031-056-XXX	180
		1081XXX	181
		Catalog Page No. 17	182
		Specimen	115 113 (enlarged)

		Sample Pin	114
D-6	647	647A152XXXX -007	154
(PX 64)		031-049-XXX	155
		Catalog Page No. 29	156
		Specimen	107 105 (enlarged)
		Sample Pin	106
		Model	108

Because of the number of claims asserted and the number and variations of the accused Wells sockets, the accused Wells sockets have been grouped for trial purposes by Pfaff into three families having common characteristics, and by Wells into four groups having common characteristics. A composite table showing the manner in which both Pfaff and Wells have grouped the Wells accused products is shown below:

TABLE Y – CATEGORIES OF ACCUSED WELLS SOCKETS

CATEGORY A – PFAFF FAMILY I: WELLS GROUP: FOUR

Exhibit No.	Wells Model No.	Wells Drawing No.	Plaintiff's Exhibit No.
D-1	642	642-126XXXX	150
(PX 59)		031-045-XXX	151
		031-050-XXX	152
		Catalog Page No. 25	153

		Specimen	119 117 (enlarged)
		Sample Pin	118
		Model	120

CATEGORY B – PFAFF FAMILY II: WELLS GROUP: THREE

Exhibit No.	Wells Model No.	Wells Drawing No.	Plaintiff's Exhibit No.
D-2	653	1071XXX	170
(PX 60)		1072XXX	171
		Catalog Page No. 3	173
		Specimen	174 121 (enlarged)
		Sample Pin	122
		Model	124
D-2	663	663-240XXXX	175
	653	653-12818X1-100	184
	663	Specimen	123

CATEGORY C – PFAFF FAMILY II: WELLS GROUP: TWO

Exhibit No.	Wells Model No.	Wells Drawing No.	Plaintiff's Exhibit No.
D-3	648	648-0322011	157
(PX 61)		001-XXX-004 (Sheet 2)	158

		Catalog Page No. 9	159
		Specimen	127 125 (enlarged)
		Sample Pin	126
		Model	128
D-3 (PX 61)	649	649A0262011 -A01	160
		001-XXX-011	161
		Catalog Page No. 11	162
		Specimen	163
D-3 (PX 61)	652	652B0082211	164
		001-XXX-022 (Sheet 1)	165
		001-XXX-022 (Sheet 2)	166
		Catalog Page No. 19	167
		Specimen	168
D-3 (PX 61)	653	653-0824-XX-300	183
		653-04412XX-100	169
		1073XXX	172

CATEGORY D – PFAFF FAMILY III: WELLS GROUP: ONE

Exhibit No.	Wells Model No.	Wells Drawing No.	Plaintiff's Exhibit No.
D-4	667	667-B461111-208	176

(PX 62)		106XXX	177
		Catalog Page No. 1	178
		Specimen	111 109 (enlarged)
		Sample Pin	110
D-5 (PX 63)	668	668-4003XXX	179
		031-056-XXX	180
		1081XXX	181
		Catalog Page No. 17	182
		Specimen	115 113 (enlarged)
		Sample Pin	114
D-6 (PX 64)	647	647A152XXXX -007	154
		031-049-XXX	155
		Catalog Page No. 29	156
		Specimen	107 105 (enlarged)
		Sample Pin	106
		Model	108

Pfaff asserts that it has established infringement of claims 1, 6, 7, and 10 by Category A and Category D style Wells sockets and infringement of claims 1, 6, 7, 10, 11 and 19 by Category B and Category C style Wells sockets. Claims 11 and 19 relate to a barb feature explained below. Wells denies any infringement for a variety of reasons including:

(a) The Wells spreaders do not coact with the opposed inner edges of the pins which define the cavity;

(b) The Wells sockets do not contain axially elongated conductive pins;

(c) The pins in the Wells sockets have no inner edges which are inwardly inclined or converging slightly inwardly;

(d) The Wells accused sockets are not used for "leadless chip carriers"; and

(e) There are no barbs found in the Wells accused sockets.

The above infringement issues as well as others will be taken up one by one in the following analysis.

5a. Does the Wells Spreader Coact With Opposed Inner Edges Of The Pins Which Define The Cavity?

Claim 1, paragraph (b) of the Pfaff patent, reproduced in a footnote in Section 4 recites that " . . . the opposed inner edges of the ends of said pins extending from said first major face arranged to define a cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier. . . . " Claim 7, paragraph (b) also reproduced in a footnote in Section 4 recites a similar limitation, " . . . the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimension in a plane substantially parallel with said first major face, the ends of said contact means defining said cavity . . . ". Both claim 1, paragraph (c) and claim 7, paragraph (c) call for a unitary spreader

means to coact with the opposed inner edges of the pins. The spreader means is further defined to have a surface inclined with respect to the axis of the contact means and mating with the inclined inner edges of the contact means.

The Indiana Court[12] examined the question of whether the accused Wells devices contained a unitary spreader means which coacted with the inner edges of the pins and whether or not those same inner edges define the cavity in which the chip carrier is placed. Both claim 1 and claim 7 of the Pfaff patent were examined on this issue. The Indiana Court found that there was no infringement.

> The unitary spreader means of the Wells device does not coact with those inner edges of the conductive means that define the cavity. The unitary spreader means of the Wells device coacts with an arm extended from the pins. Even if the Court views the arms, as Professor Hal Watson testified on behalf of Mr. Pfaff, as inner edges of the conductive pins, those "inner edges" formed by the arms are not the same "inner edges" that define the cavity.

One of the Wells sockets accused of infringement in the Indiana Court is reproduced below, Defendant Exhibit C-2.

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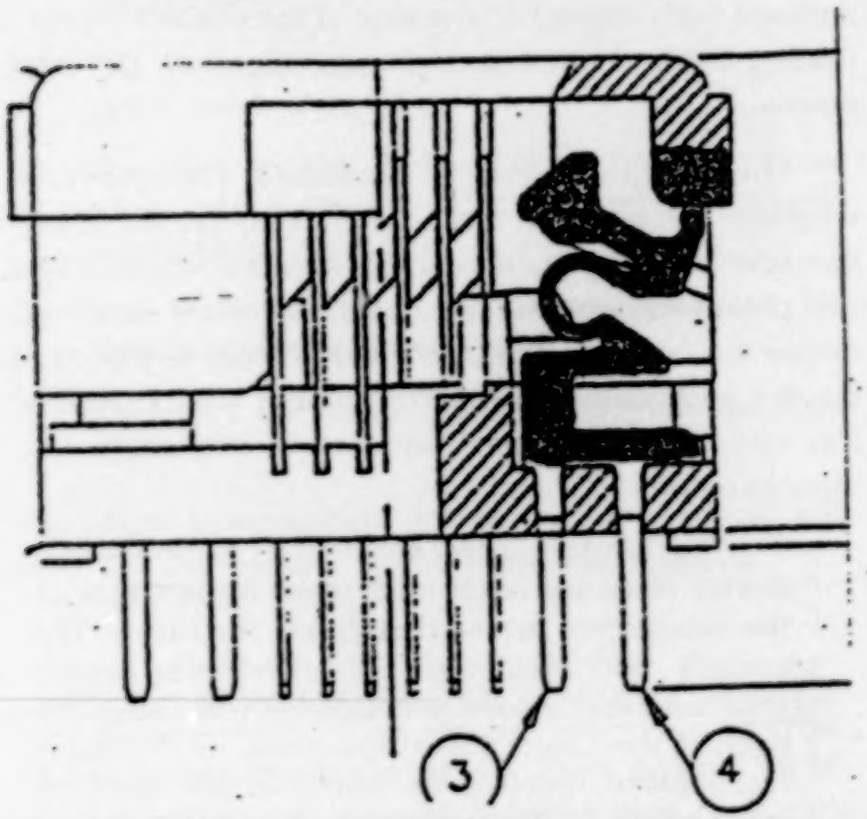
[12] *Pfaff v. Wells Electronics, Inc.* 9 USPQ2d 1366 at 1370 (N.D. Ind. 1988).

Wells Socket Accused Of Infringement In The Indiana Court



Both of the accused Wells sockets in the Indiana Court employed pins that were engaged by a cap or lid which pressed down on the end of the pin, instead of spreading the pins outward according to the design in the Wells sockets accused of infringement in this case.

The Indiana Court also examined the issue of whether or not the two Wells devices represented by Defendant Exhibits C-1 and C-2 infringed the Pfaff patent through the doctrine of equivalents. After reviewing the prosecution history and the Pauza patent and Anhalt

patent referenced above, the Indiana Court concluded that Pfaff's attorney amended the claims

> . . . to add the phrase "coacting with said inner edges of said pins" in reference to the spreader means. Claims that Mr. Pfaff amended to distinguish them from prior art patents are those that preclude a finding of literal infringement. Mr. Pfaff cannot now contend that the Wells pins, with their return bent parts, are equivalent. He cannot now contend that the Wells device, in which the spreader coacts with the arms extended from the pins, are equivalent. The doctrine of prosecution estoppel precludes resort to the doctrine of equivalents.[13]

On appeal from the Indiana Court, the Court of Appeals for the Federal Circuit affirmed in a brief unpublished opinion.

> We agree with the District Court that the claim requires coaction of the spreader means with the pin ends' inner edges which define the cavity, and that the spreader means of the Wells device coacts with a portion of the pin ends that does not define the cavity. We further agree that Wells' spreader means does not mate with the inner edges defining the cavity . . .
>
> . . .
>
> We agree with the District Court that Pfaff was precluded by prosecution history estoppel from construing as equivalents Wells' pins with return bent parts and spreader means coacting

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[13] *Pfaff v. Wells Electronics, Inc.* 9 USPQ2d, 1371 (N.D. Ind. 1988).

> with the arms extending from the pins. In overcoming the *Pauza* and *Anhalt* references, Pfaff amended his claims, adding "axially elongated" to limit his pins and "inner edges" to limit the structure defining the cavity. Pfaff's claim interpretation would thus resurrect subject matter surrendered.[14]

In this case the court granted a Motion for Summary Judgement finding that the six Wells sockets accused of infringement in this case did not infringe the Pfaff patent. The basis for the Summary Judgement was the same as that found in the Indiana Court. The Wells sockets lacked the recitations in claims 1 and 7 requiring that "the unitary spreader means of the Wells device coacts with those inner edges of the conductive pins that define the cavity."[15]

This summary judgment was also applied to claim 19 because it tracks the language of claims 1 and 7 on the issue of infringement. With regard to infringement under the doctrine of equivalents, this court said –

> It is beyond question, and the Indiana Court has so found, that one of the specific elements amended by Plaintiff to overcome the deficiencies of his application Claims 1 and 7 was that the spreader means operated on and coacted with the *inner* edges of the pin, as contrasted to the outer edges. *Pfaff*, 9 USPQ2d at 1371. Furthermore, the *inner* edges of the pins was

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[14] *Pfaff v. Wells Electronics, Inc.* 12 USPQ2d 1158 (Fed. Cir. 1989).

[15] Memorandum Opinion and Order, Page 4, Filed June 2, 1992.

> defined as those edges "mating with" or "defining the cavity". *Id.* at 1370-71; see also *Pfaff*, 12 USPQ2d at 1159. Plaintiff now can not contend that Defendant's devices with the spreader means coacting on the outer edges of the pins which do not mate with or define the cavity or equivalents. *See Pfaff*, 9 USPQ2d at 1371. The doctrine of prosecution estoppel defeats Plaintiff's reliance on the doctrine of equivalents.[16]

The Court of Appeals for the Federal Circuit reviewed this court's grant of the Motion for Summary Judgement and reversed and remanded for further proceedings.[17] The Federal Circuit acknowledged that –

> We agreed with the Indiana Court that Wells' devices were non-infringing because their pins were not axially elongated and did not incline in a plane substantially parallel to the first major face, and because their spreader contacted with a portion of the pin ends that did not define the cavity. We also agreed with the Indiana Court that prosecution history estoppel prevented Pfaff from construing Wells' pins and spreader as equivalents; "Pfaff amended his claims [to overcome prior art by] adding 'axially elongated' to limit his pins and 'inner edges' to limit the structure defining the cavity."[18]

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[16] Memorandum Opinion and Order, Page 9, Filed June 2, 1992.

[17] *Pfaff v. Wells Electronics, Inc.* 28 USPQ2d 1119 (Fed. Cir. 1993).

[18] *Pfaff v. Wells Electronics, Inc.* 28 USPQ2d at 1121 (Fed. Cir. 1993).

However, the Federal Circuit went on to state that –

> We have said previously that "judicial statements regarding the scope of patent claims are hypothetical in so far as they purport to resolve the question of whether prior art or products not before the Court would, respectively, anticipate or infringe the patent claims."[19]

The Federal Circuit went on to identify the issue to be resolved on remand.

> Here, the district court and both parties agree that the claim interpretation of the Indiana case – that "the claim requires the coaction of the spreader means with the pin ends' inner edges which define the cavity" – controls in this case. They are correct. The prior claim interpretation has issue preclusive effect in the present case in so far as it was necessary to the judgement of non-infringement in the previous case. The dispute is whether the six devices charged with infringement here contain a spreader which coacts with the inner edges defining the cavity.

Pfaff contended that:

1. The phrase "inner edge" in the claims does not means the physically innermost edge which contacts the chip carrier;

2. The spreaders of the Wells devices in this case coact with the inner edge of the pins, not the outer edge;

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[19] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1122)Fed. Cir. 1993).

3. The "inner edge" of the pins should be interpreted to mean any inwardly facing surface of the pin which borders the cavity.

4. The cavity is not limited to the immediate area where the chip carrier nests, but extends vertically along the entire length of the pins between the base support and the lid. The cavity is determined in part by the contact point where the spreader engages the pins.[20]

The Federal Circuit agreed with Pfaff that neither the Indiana Court nor the Federal Circuit construed cavity as the immediate nesting locale of the chip.

The Federal Circuit concluded that

> . . . The district court made a factual finding that the accused spreaders coact with a point that is not an inner edge defining the cavity.
>
> We do not think that the district court could make such a factual finding based on the rough drawings, which were the only evidence before the district court pertaining to the six devices.
>
> Defendant's Exhibits D-1 and D-2 show devices in which the spreader appears to contact inner edges that define the cavity. Exhibits D-3 through D-6 are ambiguous on this point, but the evidence must be viewed in the light most favorable to Pfaff, the non-moving party, and reasonable inferences should be drawn in his favor.[21]

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[20] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1123 (Fed. Cir. 1993).

[21] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1123, including footnote 3 (Fed. Cir. 1993).

With regard to the doctrine of equivalents, the Federal Circuit went on to conclude that the existence of the question of whether or not the accused spreaders coact with an "inner edge" that defines the cavity or an "outer edge" that does not, which renders summary judgement on the literal infringement issue improper, likewise renders Summary Judgement improper on whether the accused spreaders infringe under the doctrine of equivalents.[22]

In view of the Federal Circuit's opinion in this case, Wells has shifted its argument to one of the degree to which the spreader contact with the inner edges of the pin can be located outside of the immediate nesting locale of the carrier. Wells places emphasis on the limitation in claim 1 requiring that the inner edges of the pins define a cavity "substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier . . . ". See claim 1, paragraph (b). Wells points out that Pfaff's own expert, Mr. Giesen, suggested that "substantially conforming" means *reasonably close* and *generally conforming to the dimensions of the carrier.*[23] This court finds no reason why the claim limitation "substantially conforming" should be so limited.

Another argument raised by Wells on this issue of infringement is that the Wells pins have one set of inner edges, those that contact the chip carrier defining a cavity approximately the size of the carrier. Then there is another set of inner edges, those which coact with the

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[22] *Id.* at 1124.

[23] Trial transcript, pages 222-225.

spreader that define a cavity significantly larger than the size of the chip carrier. Furthermore, with regard to the Wells category D[24] sockets, the pins are shaped so that the spreader coaction surface is outside the chip carrier and *behind the contacting inner edge*. Wells argues that the fact that the second inner edge is located *behind the contacting inner edge* means that the inner edges contacting the spreader do not define a cavity "substantially conforming" to the size of the chip carrier. Wells does not argue that the spreader contacts an inner edge of the conducting pins, but rather the inner edge so contacted is behind the first inner edge that makes contact with the chip carrier and accordingly does not define a cavity "substantially conforming" to the size of the chip carrier.

Wells continues along with this same argument by defining all sides of the cavity. The housing defines the floor of the cavity, the spreader defines the top of the cavity, and the "inner edges" define the sides of the cavity which form substantially vertical sidewalls in the case of the preferred embodiment shown in the Pfaff patent. On the other hand, Wells points out that the Category D Wells sockets have pins with an outset arm which extends outwardly and downwardly, forming a *complex gap behind* the carrier contacting surface of the pin. The complex gap behind the carrier contacting surface in no way resembles a substantially vertical "sidewall" of a cavity. Therefore, Wells contends, the category D spreader does not coact with an "inner edge" that defines the cavity.

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[24] Category D listed in Table Y above consists of the Wells models shown in Defendant's Exhibit D-4 through D-6.

The prosecution history reviewed above in connection with *Pauza* and *Anhalt* makes it clear that the claim language added by way of amendment was to specifically identify which side of the contact pin coacts with the spreader. That is, the inner edge as opposed to the outer edge of the pin. Nothing can be found in the prosecution history or specification that would place a narrow restriction on the location of the coaction point between the pin and spreader. This court finds that the cavity is not limited to the nesting locale of the chip carrier and that it can extend at least as far as the spreader contact with the pins contained in the Category A and Category B (Defendant Exhibit D-1 and Defendant Exhibit D-2) Wells sockets. These sockets were the subject of a comment by the Federal Circuit which is consistent with this finding.[25] This court finds that the cavity can extend as far as the laterally removed point where the spreader coacts with the inner edge of the pin and that the introduction of a *complex gap behind* the contacting surface of the pin does not save the Wells Category D, or any of the other accused Wells sockets from falling within the literal scope of the limitations in claims 1, 7 and 19 relating to this issue of infringement.

With regard to Category A (Defendant's Exhibit D-1) Wells accused socket, a different argument is raised by Wells concerning this issue of whether or not the spreader coacts with the inner edge of the pins defining

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[25] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1123, note 3 (Fed. Cir. 1993) "Defendant's Exhibits D-1 and D-2 show devices in which the spreader appears to contact inner edges that define the cavity."

the cavity. Wells points out that important pre-loading components of the device place the spreader contacting portion of the pins *outside* the base, and consequently, outside any possible cavity. When the spreader is depressed, the pins are urged outwardly and the *entire* surface of the pin is located and hidden behind base parts. Wells contends the "inner edges" of the pins located external to the base parts are not "inner edges that define the cavity." Portions of the pins that are located "outside" the socket base within which the carrier is placed cannot be part of any cavity which receives the carrier.[26]

Whether or not Wells' assertions are factually accurate, this court finds no limitations in claims 1, 7 or 19 require that the cavity be within the base parts, or that the cavity be void of any base parts or spreader parts at all times during the operation of the accused devices.[27]

In summary, this court finds that all six Wells sockets have spreaders which coact with opposed inner edges of the pins which define the cavity.

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[26] Wells refers to Plaintiff's Exhibit 59 and Defendant's Exhibit D-1 for support of its argument.

[27] The Court also observes that this Category A Wells device corresponds to the Wells accused socket shown in Defendant's Exhibit D-1 which was specifically identified in footnote 3 of the Federal Circuit opinion as one of the sockets in which the spreader appears to contact inner edges that define the cavity. *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1123 in note 3 (Fed. Cir. 1993).

5b. Are The Wells Pins Axially Elongated

Independent claims 1, 7 and 19 of the Pfaff patent each require a plurality of *axially* elongated conductive pins or contact means. Claim 7 as originally filed in the Pfaff patent application contained the language "a plurality of axially elongated contact means."[28] Claim 1 as originally filed in the Pfaff patent application omitted the words *axially elongated* and simply recited "a plurality of conductive pins". Although other amendments were made to application claim 1 in the response to the first Office Action, it wasn't until the response to the second Office Action that the words *axially elongated* were inserted into the recitation "a plurality of axially elongated conductive pins."[29] Independent claim 19 was presented for the first time in the response to the second Office Action and claim 19 included the *axially elongated* language. In the specification of the Pfaff patent as filed the words *axially elongated* were used a number of times to describe the conductive pins.[30]

In the prosecution history the Examiner used the words *axially elongated* in the first Office Action. In describing the Pauza patent,[31] Figure 3 shown in Section 4, the Examiner in the first Office Action stated that "Pauza et al disclosed mounting means for a leadless chip carrier including a plurality of axially elongated contact

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[28] Pfaff patent claim 7, paragraph (b), first line.

[29] See Pfaff patent claim 1, paragraph (b), first line.

[30] See the ABSTRACT, lines 4 and 5, and column 3, line 49, for example.

[31] U.S. Patent 3,753,211, Defendant Exhibit ABC.

means 58 moveable to and from the chip by axially moveable cams or flanges 80." As can be seen in Pauza, Figure 3, the contact means 58 has a knee in the region designated 68 producing a substantial divergence from the otherwise vertically straight contact means 58. The Examiner implicitly found that the elongated contact means 58 in Pauza et al was *axially* elongated. Pfaff's attorney did not disagree, but made arguments distinguishing over Pauza for other reasons, some of which are set forth in Section 4. Pfaff did not amend claim 1 following this first Office action, and did not need to amend the other independent claims 7 and 19 since they already contained the terms *axially elongated*.

In the second Office Action the Examiner does not mention or use the words *axially elongated*. In the response to the second Office Action, Pfaff's attorney presents claim 19 for the first time and it includes the words *axially elongated*. Claim 1 was also amended inserting the words *axially elongated*. In the remarks contained in the response to the second Office Action, Pfaff's attorney argues distinctions in the claims including amendments to the claims in order to overcome the prior art cited by the Examiner. Some of these arguments are included in Section 4 above. However, none of the arguments relate to the amendment to claim 1 inserting the words *axially elongated* or these same words appearing in original claim 7 or newly introduced claim 19. The words *axially elongated* were not the basis for the Pfaff attorney's arguments which secured allowance of the Pfaff patent.

The Indiana Court dealt with this issue of whether or not the accused Wells sockets included pins which are *axially elongated*. The Indiana Court found:

> 1. The Wells socket construction does not have "axially elongated conductive pins". Instead, it includes conductive pins that are shortened and are rolled outwardly by a return bent portion."[32]

Claims 1 and 7 were asserted in the Indiana Court, and claim 19 was not. However, the claim language in claim 19 tracks the *axially elongated* language appearing in claims 1 and 7. The Federal Circuit reviewed the Indiana Court's decision and stated that –

> Pfaff says "axially elongated" is merely a directional limitation. Wells says it is also a limitation on shape and orientation. The court agreed with Wells, saying its pins are not "axially elongated", but "are shortened and are rolled outwardly by a return bent portion". We agree with the District Court.[33]

In the appeal from this court's decision on the Motion for Summary Judgment, the Federal Circuit did not review the issue of whether or not the six Wells sockets accused of infringement in this case contained pins which are *axially elongated*. It was not part of the issues included in the Motion for Summary Judgment. However, the Federal Circuit reasserted its agreement with the Indiana Court on the infringement issues.[34] The

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[32] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1369 (N.D. Ind. 1988).

[33] *Pfaff v. Wells Electronics, Inc.*, 12 USPQ2d at 1159 (Fed. Cir. 1989).

[34] "We agreed with the Indiana Court that the Wells' devices were non-infringing because their pins were not axially elongated and did not incline in a plane substantially parallel to the first major face, and because their spreader coacted with a portion of the pin ends that did not define the cavity." *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1121 (Fed. Cir. 1993).

Federal Circuit went on to state that the Indiana Court "claim interpretation has issue preclusive effect in the present case in so far as it was necessary to the judgment of non-infringement in the previous case."[35] On the other hand, the Federal Circuit said in the same case that judicial statements regarding the scope of patent claims are hypothetical in so far as they purport to resolve the question of whether prior art or products not before the court would respectively, anticipate or infringe the patent claims.[36] Continuing along this line, the Federal Circuit provided further guidance citing a quote from *Del Mar Avionics, Inc. v. Quinton Instrument Co.* 836 F.2d 1320, 1324, 5 USPQ2d 1255, 1258 (Fed. Cir. 1987), "A device not previously before this court, and shown to differ from those structures previously litigated, requires determination on its own facts."

Pfaff has consistently and on a number of occasions urged the court to begin its infringement analysis by performing the first necessary step of claim interpretation, particularly adopting a definition of the term *axially elongated*.[37] The court is mindful of its responsibility to set

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[35] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d, at 1122 (Fed. Cir. 1993).

[36] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1122 (Fed. Cir. 1993).

[37] See for example page 4 of PLAINTIFF'S SUGGESTIONS REGARDING DRAFT REPORT AND FINDINGS OF FACT AND CONCLUSIONS OF LAW RECOMMENDED BY SPECIAL MASTER RE: PATENT INFRINGEMENT AND VALIDITY, filed April 3, 1995.

out the meaning of the language in patent claims as recently reinforced by the Federal Circuit in *Markman v. Westview Instruments, Inc.*, 52F.3d 967, 34 USPQ2d 1321. The parties have advanced various interpretations of the term *axially elongated*. Pfaff puts forth the argument that Wells is precluded by the "doctrine of inconsistent positions". According to Pfaff, Wells put forward a simple definition of *axially elongated* in its brief on appeal from the Indiana Court decision, and now is taking the position in this case that the definition should be much more complex and harder to satisfy. On page 10 of Wells' brief filed with the Court of Appeals for the Federal Circuit in the appeal from the Indiana Court decision, Wells stated that

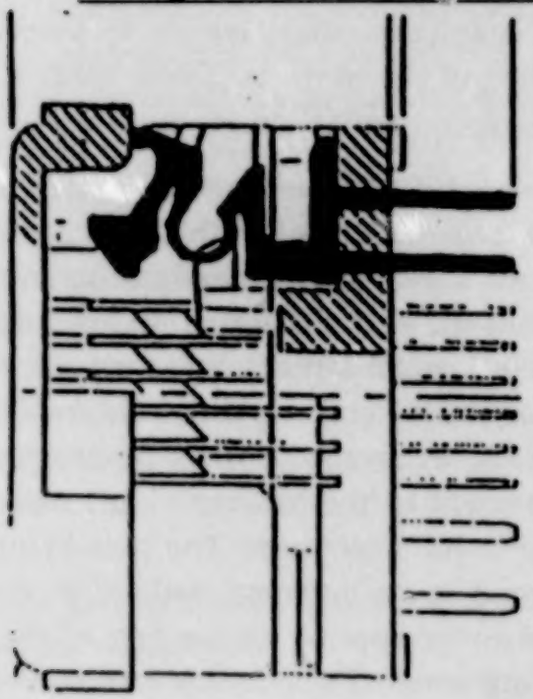
> Due to the Pfaff's mode of operation of this socket device and its related camming action between its spreader and the elongated contacts, the contacts must be provided with substantial vertical length to permit the spreading or bending of the contacts. Such is not the situation with regard to the Wells contact. If the pins or contacts in the Pfaff device were substantially shortened, an excessive force would have to be applied by the top or spreader to the contacts to move them laterally. As such, the words "axially elongated" find a realistic and necessary place in the description of the Pfaff invention.
>
> Accordingly, it is submitted that the Trial Court properly construed and interpreted the language "axially elongated" utilized in the Pfaff patent-in-suit and properly found no literal infringement regarding this element.

Pfaff complains that Wells was successful in urging the Federal Circuit to find that the accused contacts in the

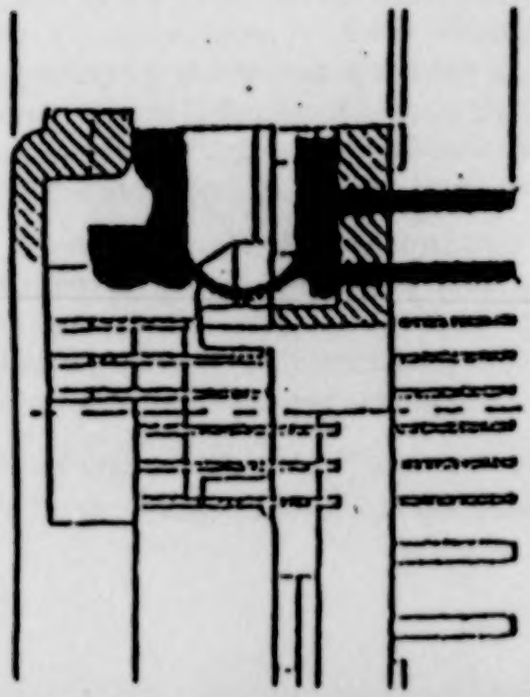
Indiana Court were not *axially elongated* because the contacts did not fit Wells definition, "the contacts must be provided with substantial vertical length to permit the spreading or bending of the contacts." Now Wells should be made to stay with its definition in this case.

As can be expected, Wells has a contrary view of the above quote. In its post-trial brief in this case beginning on page 10, Wells says that it was merely describing the mode of operation of the Pfaff invention, not providing a general definition or construction of the words *axially elongated*. Wells was simply arguing that a short Pfaff pin is too stiff to operate, whereas the short pin of the type accused of infringement in the Indiana Court still functions properly due to its outset arm. The pins before the Indiana Court spread in an outward, rolling movement, from a downward force applied to the top of the pins outwardly extending arms. The arms are shown in the illustration below with reference to the C-1 and C-2 sockets.

Wells C-1 And C-2 Sockets Accused Of Infringement In The Indiana Court

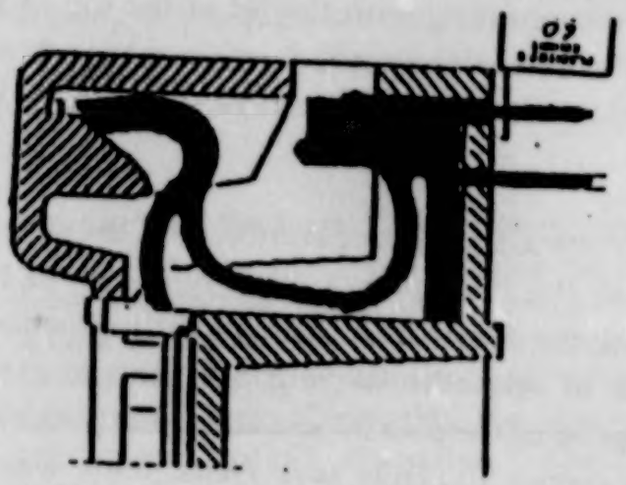


C-2

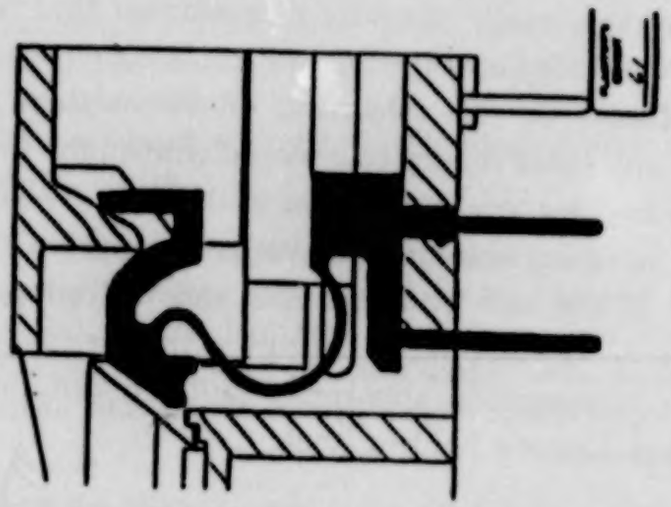


C-1

Wells Category C and Category B Sockets Accused of Infringement This Court



CATEGORY B



CATEGORY C

Wells sockets C-1 and C-2 were accused of infringement in the Indiana case. The above illustration shows the arm of the pin coacting with the lid at the top of the socket. When the lid is depressed, the arm moves downward in response to the downward force supplied by the top.

Wells was contrasting this operation with the spreading operation in the Pfaff patent. With reference to Figures 4 and 5 of the Pfaff patent illustrated in Section 2 above, the lid or spreader 40 engages the outwardly diverging edges 50 of the pins 20 spreading the pins away from the chip carrier 10. Thus says Wells, there was no attempt in the Indiana appeal to define *axially elongated* to encompass all pins that are capable of spreading simply because they have a "substantial vertical length to permit the spreading or bending of the contacts."

The court finds that Wells was not construing the claim language *axially elongated* in a manner that would constitute an admission against interest, a change of position precluded by the "doctrine of inconsistent positions", or any other theory that would control the finding of a definition for *axially elongated* in this case. The court, however, is in agreement with Wells description of the operation of the two different pins and will adopt portions of it in developing a definition in this case. This difference in operation apparently laid a foundation for the Indiana Court's holding that:

> 1. The Wells socket construction does not have "axially elongated conductive pins". Instead, it includes conductive pins that are shortened and are rolled outwardly by a return bent portion.[38]

Having disclaimed the short simple definition of *axially elongated*, Wells in its post-trial brief in this case, pages 11 and 12, goes on to attempt to provide another definition:

> Simply put, the term "axially elongated" probably defies any precise definition as is evident from the diverse testimony of record. However, a look at the spectrum of pins examined in this as well as past proceedings helps to shed some light on the term. Obviously, the pins of the '377 patent are "axially elongated." The '377 pins, continually referred to by Pfaff as "blades," are of simple shape, elongated about a single axis. Common sense dictates that if something is "elongated," then it is longer than it is wide. However, "*axially* elongated" must be further limiting. Otherwise, the pins in the Indiana suit, which were longer than wide, would have met the "axially elongated" language. The further limitation on the term "elongated" supplied by the addition of the term "axially" necessarily requires that an infringing pin be substantially longer about a single simple axis relative to the pins' width.
>
> Looking back to the Indiana case, the Indiana pins were not found to be "axially elongated." The Indiana pins were not simple shapes, elongated about a single axis, although admittedly they were longer than they were

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[38] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1369 (N.D. Ind. 1988).

> wide. However, the Indiana pins were not substantially longer than wide about a common axis. And although the Indiana pins spread, they spread by rolling outwardly and would function in much the same manner regardless of their overall length. Indeed, the significant distinctions of the Indiana pins is that they were "shortened and . . . *rolled outwardly by a return bent portion.*"

Having reviewed the diverse testimony of record in this court as well as the Indiana Court and the arguments of counsel, this court finds that the proper construction of the term *axially elongated* in the claims of the Pfaff patent is as follows:

> *Axially elongated* means that the conductive pin must be provided with substantial vertical length along an axis normal to the first and second major faces of the base support means, such vertical length being measured from said base support to the point on the inner edge of the pin which makes contact with the unitary spreader means, to permit, given the thickness and stiffness of the construction of the pin, a spreading of the end of the pin due to a force applied in a direction perpendicular to said axis in response to depression of said unitary spreader means along the direction of said axis and toward said base support.

In adopting the above construction of the *axially elongated* claim language the court rejects Wells' definition to the extent it requires that the pin be "simple" in design and without overall complex pin shape.

The court has applied the above construction of the term *axially elongated* to the four categories of Wells

sockets A through D. Categories B and C are shown in the illustration above in this Section 5b. Wells sockets in Category A and Category D are not illustrated herein, but may be found in the exhibits identified in the footnote below.[39] It is the court's finding that all Categories A-D of Wells sockets fall within the court's above construction of the term *axially elongated*. In fact, the Wells sockets in Category A and Category D would appear to conform to Wells' definition calling for a "simple", non-complex pin shape. Wells Category B and Category C pins, shown in the illustration above in this section 5b., have an extremely arched central spring portion generally shaped in the form of the letter "C". While this shape may appear to be complex as compared to a "simple" axial elongation, a similar "C"-shaped configuration appears in pin 20 in Figs. 4 and 5 of the Pfaff patent illustrated above in Section 2.

Although the Pfaff preferred embodiment has a "C"-shaped pin 20 configuration which is much smaller than the "C"-shaped pin configuration in Wells Category C and Category B sockets, nevertheless the "C"-shaped configuration performs exactly the same function. It permits the end of the pin contacting the spreader to move in a direction perpendicular to the vertical axis of the pin.

Having found that the Wells sockets have pins which are *axially elongated*, the court's inquiry into this issue is still not concluded because of the prior proceedings in

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[39] Category A and Category D include pins whose shape is represented in Defendant Exhibit D-1, Defendant Exhibit D-4, Defendant Exhibit D-5, and Defendant Exhibit D-6 including Wells model numbers 642, 667, 668 and 647.

the Indiana Court. The same parties have been before the Indiana Court asserting infringement of claims 1 and 7 of the same Pfaff patent by a Wells leadless chip carrier socket. Earlier in this Section 5b. reference is made to the Federal Circuit's guidance with respect to the preclusive effect of the Indiana Court's claim interpretation. Recently the Federal Circuit has provided additional guidance in the *Comair* case[40] regarding issue preclusion, which protects the defendant from the burden of litigating an issue that has been fully and fairly tried in a prior action and decided against the plaintiff. The Federal Circuit set forth the elements that the defendant must show:

> The defendant must show that in the prior action the party against whom estoppel is sought had a full and fair opportunity to litigate the issue; the issue was actually litigated; the controlling facts and applicable legal rules were the same in both actions; resolution of the particular issue was essential to the final judgment in the first action; and the identical issue was decided in the first action.[41]

While Wells has not provided this court with an assembly of the above enumerated elements in a single oral argument, brief or other document, nevertheless the presence of these elements or lack thereof can be found in the record developed before this court, or before the

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[40] *Comair Rotron, Inc. v. Nippon Densan Corp.* 33 USPQ2d 1929 (Fed. Cir. 1995).

[41] *Comair Rotron, Inc. v. Nippon Densan Corp.* 33 USPQ2d 1929,1930 (Fed. Cir. 1995).

Indiana Court and admitted on joint motion as evidence in this case.[42]

Taking the elements in the order presented in the *Comair* case, this court has no reason to believe that Pfaff did not have a full and fair opportunity to litigate the issue of infringement and, in particular, the construction of the term *axially elongated* in the Indiana Court. Also, this court finds that the issue of infringement and, in particular, the interpretation of the term *axially elongated* "was actually litigated" in the Indiana Court.

The "applicable legal rules" would appear to have been the same in both the Indiana Court and this court, but "the controlling facts" may have been different since the Wells sockets accused of infringement in the Indiana Court were different from the Wells sockets accused of infringement in this court. This question will be addressed below in connection with the last element in the *Comair* case.

The next element the defendant must show in order to establish that the Indiana Court construction of the term *axially elongated* has issue preclusive effect upon this court, is that the "resolution of the particular issue was essential to the final judgment in the first action" according to the above quote from the *Comair* case. This element of the *Comair* case has been specifically addressed by the parties in this case.

Pfaff contends that "issue preclusion does not apply when alternative grounds form the basis for the first

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[42] See JOINT MOTION FOR CONSIDERATION OF STIPULATED EVIDENCE, filed June 1, 1992.

judgment" according to the *Comair* case.[43] The Indiana Court gave three different reasons why the Wells sockets did not infringe claims 1 and 7 of the '377 Pfaff patent. The three different reasons are very similar for both claims 1 and 7 and are quoted in full length below with respect to claim 7:

> The Wells device differs from Claim 7 of the patent-in-suit in three ways:
>
> 1. The Wells socket construction does not have "axially elongated conductive contact means". Instead, it includes conductive contact means that are shortened and are rolled outwardly by a return bent portion.
>
> 2. Sub-paragraph (b) of Claim 7 describes the contact means as "having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face". The contact means of the Wells device are not so inclined.
>
> 3. Sub-paragraph (c) of Claim 1 describes a "unitary spreader means . . . mating with said inclined inner edges of said contact means . . . " Again, as with Claim 1, the unitary spreader means of the Wells device does not mate with

[43] See page 2 of PLAINTIFF'S SUGGESTIONS REGARDING DRAFT REPORT AND FINDINGS OF FACT AND CONCLUSIONS OF LAW RECOMMENDED BY SPECIAL MASTER RE: PATENT INFRINGEMENT AND VALIDITY, filed April 3, 1995.

> those inner edges of the conductive contact means that define the cavity.[44]

From the above it is clear that the claim construction for the term *axially elongated* is only one of three alternative reasons why the Indiana Court found that claims 1 and 7 were not infringed by the Wells sockets.

If Pfaff's assertion is correct that "issue preclusion does not apply when alternative grounds form the basis for the first judgment", then this court is free to make its own findings regarding construction of the term *axially elongated*. In the *Comair* case the court found that there were a number of non-infringing substitute products in the marketplace precluding the possibility of the patent owner securing damages in the form of lost profits from the infringer. Damages based on a reasonable royalty would then be awarded. In making its findings, the District Court determined that one of the products in the marketplace did not infringe the patent in suit. Since the product found not to infringe was only one of a number of non-infringing products in the marketplace that would prevent recovery of lost profits, the Federal Circuit found that this specific finding was not shown to be essential to the prior court's judgment. "It suffices to negate preclusion that the finding as to Nidec's infringement was not essential to the damages decision in the New Jersey action."[45]

[44] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1370 (N.D. Ind. 1988).

[45] *Comair Rotron, Inc. v. Nippon Densan Corp.* 33 USPQ2d 1929,1931 (Fed. Cir. 1995).

Wells in its COMMENTS OF DEFENDANT ON DRAFT REPORT REGARDING FINDINGS OF FACT AND CONCLUSIONS OF LAWS RECOMMENDED BY THE SPECIAL MASTER, filed April 3, 1995, beginning page 6 argues that the Indiana Court decision was different from the decision in the *Comair* case.

> Judge[ment] Miller found that the socket devices accused to infringe in the Indiana case avoided the claims of the Pfaff patent there in litigation by not being axially elongated, by not having inner edges of the pins which define the cavity as coacting with the top or spreader, and further by not having inner edges which converge slightly inwardly or which incline inwardly. All three of these findings, which each being essential to the final judgement in the case, were in their entireties affirmed by the Federal Circuit. Thus, in accordance with the position taken by Moore's in Section 0.443 [5.1 -1], issue preclusion would be proper on any one of the three issues so decided by Judge Miller and so affirmed by the Federal Circuit. As indicated on page 594 of Moore's, all three discussed issues or findings of fact of non-infringement would be a basis for issue preclusion assuming the other elements for its existence would be present. The Restatement of Judgements at Section 27 referred to in the Comair case and of which a copy accompanies this response provides its reason for questioning whether issue preclusion would be appropriate when there were alternative grounds in the first case. It is said that issue preclusion may not be appropriate since the alternative grounds are more than one in number and thus each may not have been thoroughly considered or the losing

> party which is entitled to appeal each of the alternative grounds might be dissuaded from doing so. But the Restatement goes on further to say that the bottom of page 259 that there may be situations where despite these reservations the balance is tipped in favor of issue preclusion because of the fullness which the issues were litigated and decided in the first case. This is most certainly here since in the Indiana case Judge Miller carefully and fully discussed the alternative grounds or issues and made specific findings as to each, which findings were in their total appealed by the Plaintiff to the Federal Circuit and in which the Federal Circuit fully concurred in each of the findings with Judge Miller. Thus, the Plaintiff was not dissuaded from appealing and he most certainly had a most full and adequate hearing by both the district and the appellate court concerning each of the issues.

This court having considered the arguments of both parties finds that Wells' arguments are more persuasive and that the Indiana Court's interpretation of the term *axially elongated* was essential to the final judgment in that case. However, in making this finding the court does not mean to imply that the Indiana Court has, in fact, defined the term *axially elongated* in a positive sense so that one can determine what pin shapes fall within the Indiana Court's definition. Instead, the Indiana Court found that the pins in the Wells sockets C-1 and C-2 in the above illustration in this Section 5b. do not infringe claims 1 and 7 of the Pfaff patent because they include "conductive contact means that are shortened and are rolled outwardly by a return bent portion." Accordingly the Indiana Court defined a shape that was *not axially elongated*.

This type of negative claim construction, while essential to the final judgment of the Indiana Court, is necessarily specific to the particular shape of the pins before the Indiana Court. This court does not interpret the negative claim construction of the Indiana Court to mean that all conductive pins including shapes "that are shortened and rolled outwardly by a return bent portion" fall outside of the term *axially elongated*, regardless of whether or not such pins have additional features or shapes that would make them *axially elongated*. If such an interpretation were to be placed upon the Indiana Court's claim construction, then this court would conclude that this element of the *Comair* case was not satisfied since such an overly broad interpretation of the Indiana Court's construction of the term *axially elongated* was not essential to the Indiana Court's final judgment. This court finds that such an overly broad interpretation of the Indiana Court's claim construction would result in a conclusion that there should be no issue preclusion for reasons similar to those found in the *A.B. Dick* case referenced by the Federal Circuit in the *Comair* case.

> In *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 218 USPQ 965 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1042 (1984) this court declined to impose collateral estoppel based on the first court's interpretation of the scope of patent claims, this court stating that the interpretation of patent claims is not done in the abstract, and was not "essential to a final judgment on the question of validity or infringement." 713 F.2d at 704, 218 USPQ at 968.[46]

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[46] *Comair Rotron, Inc. v. Nippon Densan Corp.* 33 USPQ2d 1929,1932 (Fed. Cir. 1995).

Turning to the last element of the *Comair* case, this court finds that "the identical issue" was *not* decided in the Indiana Court. The issue before the Indiana Court is defined on two levels by Pfaff. First, the broad issue of whether or not the same Wells sockets were before the Indiana Court and before this court. A more narrow definition of the issue is whether or not the same pin shapes were before the Indiana Court and before this court. If the issue is to be decided on the basis of the first broader definition, then clearly the Wells sockets C-1 and C-2 shown in the above illustration in this Section 5b. are different from the Wells sockets in Category A through Category D in this case. One gross difference in the sockets is the method of operation of the lid or top which exerts a downward force in the sockets before the Indiana Court while the top in the sockets before this court exerts a spreading force on the pins perpendicular to the direction of downward motion of the top.

This court finds that it is more appropriate to examine the last element of the *Comair* case (to determine whether or not the identical issue was decided in the Indiana Court) on the basis of the more narrow definition of the issue. Are the *pins* identical in the sockets before the Indiana Court with the *pins* in the sockets before this court. While the entire Wells sockets need not be examined for determination of this issue, it is the court's finding that the entire shape of the pins needs to be examined, not just a portion of the pins that may include "conductive contact means that are shortened and are rolled outwardly by a return bent portion."

The shape of the pins before the Indiana Court are shown in the above illustration in this Section 5b. (see

Wells sockets labeled C-1 and C-2 corresponding to Plaintiff's Exhibit 100 and 101 respectively). The court finds that the pins in Category A and Category D in the Wells sockets before this court are different in configuration and cannot be found to be anywhere near "identical" to the pin configuration in the C-1 and C-2 sockets. Accordingly, issue preclusion is inappropriate in this case, and findings of infringement regarding the *axially elongated* claim language in this Section 5b. are unaffected by the findings in the Indiana Court.

The pins in the Wells Category C and Category B sockets are shown in the above illustration in this Section 5b. With respect to this illustration, Pfaff makes a detailed analysis of the differences between the pins in PLAINTIFF'S SUGGESTIONS REGARDING DRAFT REPORT AND FINDINGS OF FACT AND CONCLUSIONS OF LAW RECOMMENDED BY SPECIAL MASTER RE: PATENT INFRINGEMENT AND VALIDITY, filed April 3, 1995 beginning on page 7:

> Note that in both C-1 and C-2 the spreader coacts with a laterally extending arm which the Indiana court apparently referred to as a "bent return portion." In both C-1 and C-2 the bent return portion
>
> (a) extends in a horizontal direction substantially normal to the vertical axis of the pin;
>
> (b) presents an upwardly-facing portion which coacts with the spreader and is specifically formed to permit the spreader to exert *only* a downwardly (not outwardly) force; and
>
> (c) terminates at an elevation *below* the extreme vertical height of the pin.

The Category B and Category C pins *have no such return bent portion*. While the Category B and Category C pins have contorted shapes (including an extremely arched central spring portion) the Pfaff device also has an identical, albeit smaller, curved spring portion.

In both the Category B and Category C devices, the upper portion of the pin deviates outwardly (reminiscent of the "bent return portion") *but then*

(a) bends upwardly;

(b) terminates in an inclined inner edge end portion which mates with the spreader to force the pin *outwardly*; and

(c) extends upwardly sufficiently to form the vertical extreme top end of the pin.

> Furthermore, the Category B and Category C pins both include an elongated finger portion (characterized by Pfaff as a barb) adapted to reach over and make contact with the *top* of the contact feet on the leadless chip carrier. No such structure (or its equivalent) is found in C-1 or C-2. On the contrary, in the Indiana case Wells adamantly asserted (and the Court so found) that the inner edges of the C-1 and C-2 points *did not overlap* the chip carrier (*Pfaff I*, 9 USPQ2d 1366 at 1370).

This court is persuaded by the Pfaff analysis of the pins shown in the above illustration in this Section 5b. and finds that the pins in Category C and Category B are not identical to the pins C-1 and C-2 in the Wells sockets before the Indiana Court. In fact, the major similarity between the sockets is the "C"-shaped portion of the four pins in the above illustration in this Section 5b. which

gives the pins their ability to spread. The preferred embodiment in the Pfaff patent shown in Figs. 4 and 5 of the illustration in Section 2 above provides the same ability to spread although the "C"-shaped portion of pin 20 of the Pfaff patent is much smaller. Clearly the presence of the "C"-shaped design cannot be found to negate a pin design from being *axially elongated* since the "C"-shaped portion of the pin 20 is illustrated in the preferred embodiment of the patent which is also the preferred example of an *axially elongated* pin. Further, if the Indiana Court construction of the term *axially elongated* is expanded to the point where it means that all pins with a "C"-shaped portion are in fact pins "that are shortened and are rolled outwardly by a return bent portion", then this court as stated in connection with the previous element of the *Comair* case finds that this extended interpretation was *not* essential to the final judgment of the Indiana Court.

A casual inspection of the pin shapes in the above illustration is this Section 5b. would result in a conclusion that the pins before the Indiana Court are similar in shape to the Category C and Category B pins. However, an appropriate, more detailed inspection reveals that they are *not* identical, and accordingly the final element of the *Comair* case is not satisfied. Issue preclusion does not apply to the Category C and Category B Wells sockets.

In summary, this court finds that the pins in Category A through Category D Wells sockets are *axially elongated*.

5c. Do The Wells Pins Have Inner Edges Which Are Inwardly Inclined Or Converging Slightly Inwardly?

Claim 1 of the Pfaff patent requires that the accused sockets have pins which have inner edges *converging slightly inwardly* with distance from the first major face of the base support means.[47] Claim 7 requires that the contact means have edges which *incline inwardly* toward the cavity in a plane substantially parallel with the major face of the support housing.[48] The third independent claim 19 requires that the contact means have edges which *incline inwardly* toward the cavity in a plane substantially parallel with the first major face of the support housing.[49]

The Indiana Court found that the Wells sockets accused of infringement did not have ends *converging or inclining inwardly* as called for in claims 1 and 7 of the Pfaff patent.

> 2. Sub-paragraph b of Claim 1 describes "inner edges of said pins converging slightly inwardly with distance from said first major face". The conductive pins in the Wells device do not have opposed inwardly converging inner edges. Further, Wells' edges are not functionally equivalent to the inner edges of the device described in Claims 1 through 6 of the patent in suit. The inner edges of the Wells device engage only the edge of the carrier and do not overlap to secure

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[47] Pfaff patent, claim 1, paragraph (b).

[48] Pfaff patent, claim 7, paragraph (b).

[49] Pfaff patent claim 19, paragraph (b).

> the carrier as described and shown in the patent-in-suit.[50]

The Court of Appeals for the Federal Circuit agreed. "We further agree that Wells' spreader means does not mate with the inner edges defining the cavity and that the edges of the Wells pin ends do not incline in the plane 'substantially parallel' to the first major face."[51]

The Indiana Court described the Wells accused socket operation. "Under this design, the lid of the socket would be depressed and urge the arm downward, forcing the contact away from the cavity into which the leaderless chip carrier was to be placed; the contacts would spring back when the top was raised and the pressure on the arms removed, contacting the sides of the leaderless chip carrier."[52] Pfaff quotes from Professor Bach's testimony in the Indiana Court contrasting the Indiana device from the Pfaff invention.

> Well, there's a difference there because the Wells device has a contact or should say makes contact on a surface with a vertical tangent. That is on the curved portion or the spring portion of the contact. The contact is made with the leadless chip carrier vertically. Whereas with the Pfaff device the inclined surface makes contact with the chip carrier usually or typically at the top edge, so that the axially elongated member that is in [sic] described in the Pfaff patent in

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[50] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1369 (N.D. Ind 1988).

[51] *Pfaff v. Wells Electronics, Inc.*, 12 USPQ2d at 1159 (Fed Cir. 1989).

[52] *Pfaff v. Wells Electronics, Inc.*, at 1369.

> fact forms somewhat of a clamping action whereas the Wells device forms only a squeezing action. (Alp. 328)[53]

There is no disagreement that the pins in the accused sockets in the Indiana Court squeezed the sides of the chip carrier and had no *inner edges* of the pins *converging or inclining inwardly* to hold the chip carrier in place. On the other hand, each of the six accused devices in this case have pins wherein their inner edges include a portion which *inclines inwardly* to contact the chip carrier and hold the chip carrier in place. They do not contact the chip carrier only on a vertical tangent as in the Indiana Court. Accordingly, the prior claim interpretation by the Indiana Court does not have issue preclusive effect in the present case.[54]

The parties in this case dispute the question of whether or not the six Wells sockets have pins with *inwardly inclining* edges. Pfaff defines these words to mean any portion of the inside edges which extend, at least partially, in the direction toward the carrier. The function of the inclined edge is to securely lock the carrier within the housing. " . . . the inclined edges 51 of the blades b are urged into the depressions 12 to form physical and electrical contact with the lands 12. Furthermore, since the edges 51 are inclined inwardly from the vertical,

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[53] See attachment "K" of Pfaff Supplemental Trial Brief for Infringement Portion filed July 1, 1994.

[54] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1122 (Fed. Cir. 1993).

the blades b securely lock the leadless chip carrier within the mounting housing."[55]

Pfaff claims that Wells concedes that Category 1 sockets have pins with *inwardly inclined* edges referring to the trial testimony in this case of Mr. Midili, President of Wells referring to Defendant Exhibit E-1 corresponding to Category A sockets also illustrated in Defendant Exhibit D-1.

> Q. Would you indicate those particular edges by a green mark?
>
> A. (Witness complies.)
>
> Q. Do those inner edges which you have so described converge slightly inwardly with distance from the first major face?
>
> A. They do. Actually (drawing) that's were they should be, yeah.[56]
>
> . . .
>
> Q. And you indicated what those inner edges would be?
>
> A. I have. Green.
>
> Q. Green?
>
> A. Yes.
>
> Q. Do those edges incline inwardly towards the cavity?
>
> A. Yes, they do.

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[55] Pfaff Patent 4,491,377, column 5, lines 16-22.

[56] Trial transcript in this case, page 420, lines 11-21.

> Q. Do they incline outwardly?
>
> A. No.[57]

Pfaff contends that the Category D sockets with pins illustrated in Defendant Exhibits D-4, D-5 and D-6 have *inwardly inclined or converging edges*

> (i) in the form of a flat surface on the pin at the location where it contacts the chip carrier in the case of the pins illustrated in Plaintiff Exhibit 177 corresponding to Defendant's Exhibit D-4, and
>
> (ii) in the form of a radius which contacts the chip carrier in the case of the pins illustrated in Plaintiff Exhibit 181 corresponding to Defendant Exhibit D-5.

Pfaff asserts that Mr. Midili agrees that the curved radius surface would be within the definition of *inwardly converging*.

> Q. Are there inwardly converging portions of that edge on the radius as you've defined it?
>
> A. If you go along point to point on the radius, it would – that radius extends inward.[58]

This court notes that the remaining member of the Category D sockets with pins illustrated by Defendant Exhibit D-6 have a radius contacting the chip carrier and holding it in place as can be seen in more detail in Plaintiff Exhibit 155 which radius is similar to the radius in Defendant Exhibit D-5 pins.

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[57] Trial transcript in this case, page 422, lines 3-12.

[58] Trial transcript in this case, page 596, lines 1-4.

Pfaff presented evidence through its technical expert, Mr. Gastine that all of the accused Wells sockets in this case meet the *converging or inclining inwardly* language of independent claims 1, 7, and 19.[59]

Pfaff also refers to the deposition testimony of Mr. Carter, designer of the Wells Category A type of pin illustrated in Defendant's Exhibit D-1.

Q. That's where the contact pin makes contact with the J lead or straight lead on the package. Is that correct?

A. That's correct. Both along the radius itself and the run-out area underneath

Q. The purpose of that radius area is to make electrical contact?

A. Correct.

Q. Does it have another function?

A. No.

Q. Does it in any way serve to maintain the package within the socket?

A. The pressure of the contact on the socket maintains it. So, the answer is Yes.

Q. So, it does exert some pressure on the leads of the device package to maintain the device package in the socket?

A. That's correct.

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[59] Trial transcript in this case, pages 124, 132, 149, 154, 167, 183, and 204.

Q. Is that pressure exerted from – What direction is that pressure exerted from when the device is closed?

A. In the view given, it would be primarily from right to left.

Q. Horizontally?

A. Primarily horizontal.

Q. When you say primarily, do I take it from that there are other vector forces involved?

A. Yes. Depending upon where you pick up the radius and the run-out area, there would be generated, again dependent upon the angle of incidence, some downward force. That would be rather low compared to the horizontal force.

Q. But, there is intended in this design that the radius area does apply some downward force. Is that correct?

A. The primary objective of the design was retention in the socket. So, in order to not have the cake-of-soap situation where you would exert an ejecting force, the force should be horizontal to downward rather than horizontal to upward.[60]

The pins in all of the sockets in this case avoid the cake-of-soap problem referred to in Mr. Carter's deposition testimony.

Wells, on the other hand, asserts that the language in claim 1 "the inner edges of said pins converging slightly

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[60] Deposition testimony of Carter, Plaintiff Exhibit 207, page 25, line 1 through page 26, line 17.

inwardly with distance from said first major face" must have a *continuous, positive slope* as found in the Pfaff patent. While the Pfaff patent illustrates in the drawings (see Figures 4 and 5 above in Section 2) pin blades 20b which have an inwardly sloping edge continuous except for the barb 51a for an appreciable distance above and below the chip carrier 10, there is nothing in the claims that requires that there be an extensive continuous inwardly inclining slope over a large portion of the inner edge of the pin. The only operative portion of the pin is the point which makes contact with the chip carrier in order to make electrical contact and to hold the chip carrier down in place.

This court finds that at least a portion of each of the pins in the six sockets accused of infringement in this case have a shape which satisfies the *inwardly inclining* language contained in independent claims 1, 7, and 19.

5d. Are The Wells Sockets For Leadless Chip Carriers?

Each of the independent claims 1, 7, and 19 of the Pfaff patent begin by reciting on the first line thereof "Mounting means for a leadless chip carrier comprising: . . . ". The Indiana Court set up a definition of a leadless chip carrier (although referring to it as a "leaderless" chip carrier occasionally).

> In the state of today's semiconductor art, a multiple of electric components or circuits can be etched in a silicon wafer, commonly referred to as an integrated circuit, which is housed within a ceramic or plastic carrier for protection. Integrated circuits conventionally are housed in dual in-line packages having interconnection

> leads adapted for attachment by insertion through printed circuit boards. The leads of such packages or carriers assume a variety of configurations, such as L-shapes and J-shapes. During recent years, in response to the need for high-density packaging for integrated circuit devices, the industry has developed a package that dispenses with the need for conventional leads in favor of lands, or contact pads, around the periphery of a square or rectangular ceramic or plastic housing known in the art as leadless chip carrier.[61]

The Indiana Court continues to define leadless chip carrier in footnote 1.

> Some leaderless chip carriers actually have small J-type leads that wrap around an edge of the carrier and are adapted for surface mounting of the carrier on a printed circuit board rather than insertion through the circuit board. More precisely, "leaderless chip carrier" is a term of art designating a surface-mountable chip carrier.

Pfaff contends that the Indiana Court definition of leadless chip carrier was essential to this court's judgment and therefore is entitled to "collateral estoppel effect" as to the construction of that term used in the preamble of the Pfaff patent claims. On the other hand, Pfaff also urges that statements of intended use in the preamble of a claim are not limitations, citing *Lactate Corporation v. Altricial, Ltd.*, 781 F.2d 861, 228 USPQ 90, 94

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[61] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1367 (N.D. Ind. 1988).

(Fed.Cir. 1985). Pfaff says the preambles of the Pfaff patent claims are statements of intended use and, therefore, are not claim limitations. That this language is a mere statement of intended use is shown by the context in which it is used and by the fact that the U.S. Patent and Trademark Office during the Pfaff patent prosecution asserted against these claims prior art sockets for use on carriers that are unquestionable not leadless chip carriers. In fact, Wells also asserted prior art sockets against the Pfaff patent claims even though the prior art sockets were not intended for use with leadless chip carriers. According to Pfaff therefore, even if the Wells sockets accused of infringement in this case are used for carriers that are not leadless chip carriers, nevertheless infringement would not be avoided simply because of the statements of intended use in the preamble of the Pfaff claims.

Pfaff contends that all of the Wells sockets accused of infringement in this case are intended for use in testing and burn-in of surface mounted chip carriers. Specifically, Category A sockets are intended for use with J-lead devices which are surface mounted.[62] The Category B and Category C sockets are intended for use with gullwing devices which are also surface mounted.[63] The remaining Category D sockets are used for J-lead or carrier-ring devices which are surface mounted.[64] Mr. Mangum, the

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[62] Mr. Midili trial testimony in this case, page 501, lines 16-20.

[63] Mr. Mangum trial testimony in this case, page 33, lines 5-10.

[64] Mr. Midili testimony in this case, page 426, line 5 through page 427, line 11.

owner of a business for burning in chips, testified that the term "leadless chip carrier" includes surface mountable devices with leads.[65] Examples of the J-lead, gullwing, carrier ring and other types of chip carriers including the "dead bug" and "live bug" variety are shown on Plaintiff's Exhibit 10.

Mr. Pfaff, the inventor, testified in this case that

> A. A leadless chip carrier is – as used – it's common terminology in the industry – is a chip that is in a package where the package leads do not need to go through the circuit board to be soldered in. It's a surface mount device, a chip carrier that solders to the top of the board as opposed to through-hole technology where it solders through the board.[66]

Wells contends that the accused devices are not used with leadless chip carriers. The Indiana Court made inconsistent statements. At first, the Indiana Court explained that a leadless chip carrier has *no leads*, instead it uses terminal lands, or contact pads. Then the Indiana Court stated that some "leaderless [sic] chip carriers" have *J-type leads*. Finally, the Indiana Court concluded that a "leaderless [sic] chip carrier is . . . a surface mountable chip carrier." In a few short sentences, the Indiana Court stated that a leadless chip carrier does not have leads, may have leads, and is simply a surface-

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[65] Mr. Mangum testimony in this case, page 30, line 14 through page 31, line 13; page 106, line 15 through page 107, line 12.

[66] Mr. Pfaff's testimony in this case at page 88, lines 4-20.

mountable chip carrier. Wells points out that the independent claims say "mounting means for a *leadless* chip carrier," not "mounting means for a *surface-mountable* chip carrier".

Wells also points out that one particular Wells model, number 642 represented by the pin shape in Exhibit D-1 of Category A was intended for use with straight lead applications. Mr. Midili testified that Wells designed this socket for the straight leaded chip carrier which he called dual in-line type, but that it could be used for a J-lead type if someone chose to do that.[67]

This court having heard the testimony and reviewed the Exhibits in this case arrives at the same definition for *leadless chip carrier* that was found by the Indiana Court. Accordingly, this court finds that all six types of sockets accused of infringement in this case, Category A through Category D are intended for use with leadless chip carriers as defined by the Indiana Court.

5e. Did The Wells Category B And Category C Sockets Have Barbs On The Inner Edges Of The Pins?

Dependent claim 11 recites "Mounting means as defined in claim 7 wherein the inwardly inclined edges of said contact means include an inwardly projecting barb." Claim 19 includes a final sub-paragraph (d) which recites "barb means projecting inwardly from the inwardly inclined edges of said contact means."

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[67] Mr. Midili, President of Wells, testimony in this case, page 701, lines 21-24.

With reference to Figures 4 and 5 from the Pfaff patent as shown in Section 2 above, the specification at column 5, line 56 states that:

> In the embodiment of FIGS. 4 and 5 the outwardly divergent edge 51 of blade b is modified to include an outwardly and downwardly extending barb a. Thus, when the spreader cap 40 is depressed, the blades b are withdrawn laterally to permit the leadless chip carrier to be deposited within the cavity. However when the spreader cap 40 is released, the blades b move inwardly urging barbs a inwardly and downwardly into contact with the top surface of the lands 11. Since barbs a move both laterally and downwardly when the blades b are released, the barbs a scrape the surface of the lands 11 to remove any oxidation therefrom and thus form good electrical contact with the lands 11 while also acting to retain the leadless chip carrier within the cavity.

There was no assertion that there were barbs on the pins in the sockets accused of infringement in the Indiana Court, and claims 11 and 19 were not at issue in the Motion for Summary Judgment in this court. Accordingly, no prior proceedings contain references to the barb limitation in claims 11 and 19.

Pfaff charges the Category B and Category C (see Section 5b. for illustrations) sockets with infringement of claims 11 and 19.[68] Pfaff asserts that the proper construction of this claim element is that the *barb* in claims 11 and

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[68] Category B socket pins are illustrated in Defendant Exhibit D-2 and include Wells Model Nos. 653 and 663; Category C sockets have pins illustrated by Defendant Exhibit D-3 and include Wells Model Nos. 648, 649, 652 and 653.

19 means any inner edge of the pins which projects inwardly and downwardly, citing the portion of the Pfaff patent in Column 5 above. The function of the barb element is to move inwardly and downwardly to contact the carrier upon release of the spreader.

Pfaff's patent law expert, Mr. Grossman, testified that there is nothing in the claim language which requires that the barb scrape the chip carrier conductor. "There is no function assigned to that structural element."[69]

Wells contends that its Category B and Category C sockets do not have pins which include a barb means projecting inwardly from the inwardly inclined edges of the pins. Wells cites a common dictionary definition for *barb*, "a point or pointed part projecting backward from a main point, as of a fish hook, an arrow, or the like."[70] Wells contends that the illustration of the barb 51a in Figures 4 and 5 of the Pfaff patent with its sharp triangular shape, jutting outwardly and downwardly from the Pfaff blade, fits quite naturally into this standard definition of a barb. In contrast, the term *barb* would have to be interpreted overly broad to encompass the corners of the pins in the Wells sockets charged with infringement.[71] First, none of the corners of the pins are sharp. Every angle of every pin has a radius. Second, although the

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[69] Mr. Grossman testimony in this case, page 913, line 12 through page 915, line 3, and page 931, line 2 through page 933, line 15.

[70] *Webster's Encyclopedic Unabridged Dictionary* 118 (1989).

[71] Categories B and C shown in Defendant Exhibit D-2 and D-3.

corner of each pin constitutes the innermost extending curve of the pin, these corners do not protrude from the main body of the pin to form a separate, barb-like shape. Rather, such rounded corners are integral to the overall pin shape. Third, none of the corners project backward from a main point, like a fish hook, an arrow head or Pfaff's barbs. None of the pins have a main point from which the barb could project. Each of the Wells corners is simply one surface of a relatively compact portion of the upper section of the pin.

Wells goes on to argue that furthermore, even if the corners of the accused pins could somehow be considered to be *barbs*, the pins do not infringe (i) claim 19, because the corners do not "project inward from the *inwardly inclined edges*" of the pins, and (ii) claim 11 because the pins do not have "inwardly inclined edges and a barb means associated with it."[72] In finding that the pins in the Category B and C sockets contained inwardly inclining edges as defined in claim 7 (on which claim 11 depends) and claim 19, this court found in Section 5c. that the rounded corner of the pins contacting the chip carrier are the inclined edges satisfying the claim limitation. Having found that the radius is the element of the pin satisfying the "inclined edge" limitation in sub-paragraphs (b) of claims 7 and 19, it is then necessary to find (i) structure that projects inwardly from such "inclined edge" as called for in claim 19, and (ii) an inwardly projecting barb included in the inwardly inclined edges of said contact means as called for in claim 11.

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[72] See page 39 of Defendant's Post-Trial Brief.

The court finds no structure exists in the Wells pins that satisfies the limitation in this claim 19. The radius on the edge of the pin which contacts the chip carrier is the inclined edge in claim 19 (see illustrations of Category B and Category C in Section 5b.). This claim unambiguously calls for the barb to be a projection on the inwardly inclined edge. There is no projection on the radius on the edge of the pin. There is no barb on the inclined edge of the pin as called for in claim 19. Accordingly, the court finds that claim 19 is not literally infringed by the Wells sockets.

The scope of claim 11 is different from claim 19 in that claim 11 recites that the barb is "included" in the inwardly inclined edges of the contact means and not projecting inwardly from the inwardly inclined edges as called for in claim 19. The court finds that Wells' Category B and Category C sockets have inwardly inclined edges of the contact means including an inwardly projecting barb, using the term "barb" as described in the specification at column 5, line 56 through line 64, and further based on the testimony of Pfaff's expert appearing in the transcript of this trial page 914 line 9 through page 915 line 3. The court does not construe the term "barb" to require that it include a pointed part projecting backward from the main point such as a fishhook or arrow as asserted by Wells based on the common dictionary definition.

In summary, the court finds that Wells Category B and Category C sockets have "barbs" that literally fall within the scope of the "barb" language in claim 11, but not claim 19.

5f. Do The Wells Pins Have An Axis Aligned Parallel To Each Other And Normal To The Base?

Claims 7 and 19 each have the following limitations:

> (b) A plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, . . .

Wells asserts that the overall shape of its pins are relatively complex, with various segments extending in multiple directions, and as a result, no clearly identifiable axes can be determined. Accordingly, its pins cannot literally meet the language requiring that their axis be parallel to each other and normal to the base. This court finds that this is too narrow a construction for this language limiting it to the simple shape of the blades shown in Figures 4 and 5 of the Pfaff patent. The specification of the Pfaff patent contains an acknowledgement of the simplicity of its design.

> It should be noted that the structure of the embodiment described is extremely simple and may be readily fabricated from available materials. For example, the housing may be made from three pieces of insulating materials such as molded or machined plastic or the like. The pins 20 are symmetrical about their longitudinal axis (except for the lengths of shanks 20d and studs 20e), thus may be all identical and simply alternately reversed during assembly to project parallel rows of pins.[73]

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[73] Pfaff patent column 6, line 3-11.

This simplicity of design should not be read into the claims as a limitation.[74] This court finds that all of the accused Wells sockets have pins that do contain a longitudinal axis (although the pins are not symmetrical about their axis) and that the axis of each pin is aligned parallel to each other and normal to the first and second major face of the support housing.

5g. Do The Wells Sockets Have Spreaders With Surfaces Inclined With Respect To The Axis Of The Pins?

Claim 7 and claim 19 have language in sub-paragraph (c) requiring that " . . . said spreader means having a surface inclined with respect to the axes of said contact means . . . ". Wells says the contact means have no identifiable axis and accordingly this claim cannot be literally infringed. This court has disagreed with Wells in the preceding Section regarding the presence or absence of an axis for the contact means. This court finds that the spreaders in the sockets charged with infringement in this case all have surfaces inclined with respect to the axes of the contact means.

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[74] *Lockheed Aircraft Corporation v. United States*, 193 USPQ 449, at 458 (Ct. Cl. 1977). *SRI International v. Matsushita Electric Corp. of American*, 227 USPQ 577 at 585 (Fed. Cir. 1985) (in banc). *Sjolund v. Musland*, 6 USPQ2d 2020 at 2027.

5h. Do Wells Spreaders Mate With The Inclined Inner Edges That Define Cavity?

Wells points out that claim 7 (as well as claim 19) includes language in sub-paragraph (c) requiring that the "spreader means . . . mat[e] with said inclined inner edges of said contact means. . . . " Wells contends that the spreaders mate with the outwardly extending arm of the pins rather than the inner edge defining the cavity. This court has already found that the spreader contacts the inner edge of the pin notwithstanding Wells assertion that this inner edge is located on an outwardly extending arm. Accordingly, this court finds that this limitation in claims 7 and 19 is met by the Wells sockets.

5i. Do The Wells Spreaders Mate With The Ends Of The Pins As Required In Claim 6?

Claim 6 is dependent upon claim 1 and adds further limitations including a " . . . camming means for mating with the ends of said pins. . . . " Wells contends that because of the rounded shape of the pin arm, no "mating" between the spreader and the pin arm occurs. This court finds no reason why a rounded portion of the pin arm does not "mate" or coact with the spreader to spread the pins. Wells has supplied no explanation. This court finds this limitation in claim 6 to be met by the accused Pfaff sockets.

5j. Do The Category B Wells Sockets Have A Centrally Located Aperture In The Housing As Called For In Claim 10?

Dependent claim 10 calls for " . . . a centrally located aperture in said support housing." The Pfaff patent describes this feature at column 6, lines 31-38.

> Removal of the leadless chip carrier 10 from the housing is accomplished with similar ease. By pressing the spreader cap 40 toward the intermediate support housing 16, the blades 20b are retracted and the leadless chip carrier may be withdrawn from the housing by simply inverting the structure; by inserting a plunger or other suitable instrument through the aperture 13; or by other suitable simple and convenient means.

Wells contends that its Model 663, one of the Category B sockets, illustrated generally by Defendant Exhibit D-2 and specifically by Defendant Exhibit E-9 and Plaintiff Exhibit 175 lacks a centrally located aperture in the base. This court agrees that Wells Model 663 does not infringe claim 10. All the other models have apertures in the base and are found to fall within the scope of the aperture language in claim 10.

5k. Do The Wells Spreaders Have Reciprocal Movement As Called For In Claim 6?

Claim 6 requires that the spreader be " . . . adapted for reciprocal movement parallel with the axis of said pins. . . . " Wells contends once again that none of its pins have an axis, and accordingly the spreader cannot have the appropriate reciprocal movement. This court finds

that the Wells spreader clearly moves up and down in the same fashion as the preferred embodiment described and illustrated in the Pfaff patent. The Wells accused sockets cannot avoid infringement because of this limitation in claim 6.

5l. Does The Wells Category A Spreader Have A Central Cavity Larger Than The Area Defined By The Pins As Set Forth In Claim 6?

Dependent claim 6 requires that the " . . . means for spreading the ends of said pins comprises a rectangular body . . . having a central cavity therein greater in lateral dimensions than the lateral area defined by the pins . . . ". Wells points out that its Model 642 having pins illustrated by Defendant Exhibit D-1 and further illustrated in Defendant Exhibit E-1 and Plaintiff Exhibit 150 does not meet this limitation in claim 6. This court finds that Wells' Model 642 does not infringe claim 6 because of this limitation. All other models accused of infringement in this case are found to fit within the scope of this limitation of claim 6.

5m. Are The Wells Pins Arranged With Their Inner Edges Defining A Cavity Which Is Rectangular In Dimensions?

Claim 7, paragraph (b) calls for "the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions . . . ". The rectangular shape is also called for in paragraph (c) of claim 7 "unitary spreader means comprising a substantially rectangular body . . . ". Claims 10 and 11 are dependent upon claim 7, and similar

limitations appear in independent claim 19. These claims call for the inner edges of the pins to define a rectangular cavity. Six of the nine Wells devices do not have pins arranged to define a rectangular cavity. Instead, they have only two parallel rows of conductive pins. The court finds that the inner edges of two parallel rows of conductive pins cannot define a rectangular cavity.

On the other hand, those Wells devices that have four rows of conductive pins arranged in a rectangular shape do fall within the rectangular language in claims 7 and 19.

The following table illustrates the Wells model numbers accused of infringement, the pin arrangement for each model, and the exhibits that illustrate the pin arrangement.

RECTANGULAR CAVITY

WELLS MODEL	PIN ARRANGEMENT	EXHIBIT
642	Two Sides	Plaintiff's Exhibit 150
653	Four Sides	Plaintiff's Exhibits 173, 183 & 184
663	Two Sides	Plaintiff's Exhibit 175
648	Two Sides	Plaintiff's Exhibit 157
649	Two Sides	Plaintiff's Exhibit 160
652	Two Sides	Plaintiff's Exhibit 164
667	Four Sides	Plaintiff's Exhibit 176
647	Four Sides	Plaintiff's Exhibit 154
668	Four Sides (one size)	Plaintiff's Exhibit 179
668	Two Sides (remaining sizes)	Plaintiff's Exhibit 182

The court finds no literal infringement of claims 7, 10, 11 and 19 by Wells Model 642 in Category A; Model No. 663 in Category B; Model Nos. 648, 649 and 652 in Category C; and Model 668 in Category D except for one size of Model 668 illustrated in Plaintiff's Exhibit 179. The remaining Wells Models 653, 667, 647 and the one size of Model 668 illustrated in Plaintiff's Exhibit 179 fall within the scope of the rectangular language in independent claims 7 and 19.

6. Infringement by the Doctrine of Equivalents

Under the doctrine of equivalents, an accused product that does not literally infringe a structural claim may infringe "if it performs substantially the same function in substantially the same way to obtain the same result." *Graver Tank and Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 85 USPQ 328 at 330 (1950); *Hughes Aircraft Company v. United States*, 717 F.2d 1351, 219 USPQ 473 (Fed. Cir. 1983). The doctrine of prosecution history estoppel prevents a patentee from relying on the doctrine of equivalents when the applicant "was forced to narrow or restrict his patent's claims through amendment to convince the examiner of the device's patentability. . . . " *Pfaff v. Wells Electronics*, 9 USPQ2d 1366 at 1370 (N.D. Ind. 1988), citing *Lactate Corp. v. Altricial, Ltd.*, 781 F.2d 861, 228 USPQ 90 (Fed. Cir. 1985). Prosecution history is used to determine the range of equivalents that a patent should be allowed. Prosecution history estoppel will not allow the patentee to recapture through equivalents certain coverage surrendered during prosecution. *Lactate Corp. v. Altricial Ltd.*, 781 F.2d 861, 228 USPQ 90 (Fed. Cir. 1985).

The Indiana Court dealt with the doctrine of equivalents on the same Pfaff patent in litigation between the same parties.

> Wells contends that the doctrine of prosecution estoppel precludes Mr. Pfaff from the benefit of the doctrine of equivalents with respect to the Wells device. The Court concurs with Wells' contention.[75]

The Indiana Court concluded that

> Thus, during the prosecution of his patent application, Mr. Pfaff amended Claim 1 to include the term "axially elongated" with reference to the conductive pins, and to add the phrase "coacting with said inner edges of said pins" in reference to the spreader means. Claims that Mr. Pfaff amended to distinguish them from prior patents are those that preclude a finding of literal infringement. Mr. Pfaff cannot now contend that the Wells pins, with their return bent parts, are equivalent. He cannot now contend that the Wells device, in which the spreader coacts with the arms extending from the pins, are equivalent. The doctrine of prosecution estoppel precludes resort to the doctrine of equivalents.[76]

The Court of Appeals for the Federal Circuit affirmed

> We agree with the district court that Pfaff was precluded by prosecution history estoppel from construing as equivalents Wells' pins with

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[75] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1370 (N.D. Ind. 1988).

[76] *Pfaff v. Wells Electronics, Inc.*, 9 USPQ2d at 1371 (N.D. Ind. 1988).

> return bent parts and spreader means coacting with arms extending from the pins. In overcoming the *Pauza* and *Anhalt* references, Pfaff amended his claims, adding "axially elongated" to limit his pins and "inner edges" to limit the structure defining the cavity. Pfaff's claim interpretation would thus resurrect subject matter surrendered.[77]

In the present case, the Court of Appeals for the Federal Circuit reviewed this court's granting of a Motion for Summary Judgment on the issue of whether or not the spreader contacts the inner edges of the pins which form the cavity. With regard to this single issue of infringement, the Federal Circuit briefly addressed the doctrine of equivalents.

> In light of our discussion above, which vacates the summary judgement of non-infringement on the grounds of literal infringement, we need not address this issue in depth. Wells is correct that, in affirming an Indiana Court we agreed that the phrase "coacting with said opposed inner edges of said pins" was a limitation added to claim 1 to distinguish over the prior art. In that case, we stated that Wells' spreaders, which coacted with arms extending laterally from the pins, could not be construed as equivalents because they contacted "outer edges" of the pins. However, in this case, there remains a material factual dispute as to whether the accused spreaders coact with the "inner edge" that define the cavity or an "outer edge" that does not. The existence of this question,

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[77] *Pfaff v. Wells Electronics, Inc.*, 12 USPQ2d at 1159 (Fed. Cir. 1989).

which renders summary judgement on the literal infringement issue improper, likewise renders summary judgement improper on whether the accused spreaders infringe under the doctrine of equivalents.[78]

6a. Do The Wells Sockets Infringe Under The Doctrine Of Equivalents The Limitations In The Pfaff Claims Calling For The Spreader To Contact The Inner Edges Of The Pins Forming The Cavity

This court has found in Section 5a. analyzing literal infringement, that the sockets charged with infringement in the present case have pins whose inner edges coact with the spreader and define the cavity. The top of the pins are not designed to contact the spreader. The accused sockets in the Indiana Court have pins that are designed to make vertical contact with the spreader. With regard to this specific design feature the pins in this case are different. The prior claim interpretation in the Indiana Court does not have issue preclusive effect in this case.[79]

Under the doctrine of equivalents a patentee must show that the accused device "performs substantially the same function in substantially the same way to obtain the same result" *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608, 85 USPQ 328, 330 (1950).

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[78] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1124 (Fed. Cir. 1993).

[79] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1122 (Fed. Cir. 1993).

Wells contends that its sockets do not spread the contact pins in the same way that the Pfaff patent discloses. Referring first to the accused devices in the Indiana Court illustrated in the drawing in Section 5a. above for the device shown in Defendant Exhibit C-2, the lid contacts the top of the pin producing a rotational movement or rolling action of the contact. Thus, the pins in the Wells device accused of infringement in the Indiana Court moves laterally or outward causing the contact at the chip carrier to rotate away from the chip carrier. With regard to each of the six sockets accused of infringement in this case, the spreader produces both lateral and vertical forces on the pin with the vertical component producing a rotational movement of the pin. This vertical component and accompanying rotational movement produces the same rolling action that was achieved in the sockets accused of infringement in the Indiana Court. Thus, the pins in the Wells sockets accused in the present case are subject to two forces, namely, a lateral force which pushes the contact laterally or outwardly, and a downward force which causes the contact at the carrier contact point to rotate away from the chip carrier. According to Wells this rotational movement is different from the substantially pure lateral movement of the pin disclosed in the Pfaff patent. This vertical component of force enables the Wells device to accommodate leads extending from the chip carriers. Indeed, Pfaff has recently introduced a sweeping, return bent, shortened pin, having many of the characteristics of the Wells return

bent contacts illustrated in Defendant Exhibit D-2 and shown in Section 5a. above.[80]

Wells continued with his argument that due to the location of the spreader to pin contact point being almost directly over the pin to carrier contact point along Pfaff's axially elongated pins shown in the patent, the force exerted by the spreader upon the pins is more of a pushing force, pushing the pin outward. In contrast, the lateral displacement or offset of the chip to pin contact point from the pin to the carrier contact point, which is present in each of the Wells socket devices, produces more of a pulling action which moves the spreader to pin point both outwardly and downwardly so as to produce the rotational action experienced by the Wells contacts in both the Indiana devices, and the devices in the present case. Wells contends that this operation is different and accordingly his sockets operate in a different way from that disclosed in the Pfaff patent.

This court has held in Section 5a. that there is literal infringement of the portions of claims 1, 7 and 19 that require that the spreader coact with the inner edges of the pins defining the cavity. This coaction performs the function of spreading the pins so that the chip carrier can be dropped into the cavity.[81] The Wells devices accused of infringement in the Indiana Court and the Wells devices

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[80] Mr. Pfaff testified in this case on pages 99-102 describing a "new QFP socket" illustrating a pin shape in Defendant Exhibit AAA very similar in appearance and shape to the pin illustrated in Defendant Exhibit D-2 a Category B type socket.

[81] See column 4, lines 51 through column 5, line 11 of the Pfaff patent.

accused of infringement in this case perform the same function. In the Indiana Court the accused sockets performed this function by pressing a lid down on the top of the pin and not on the inner edge of the pin to produce only a vertical component of force. However, the accused sockets in this case all have the lid arranged so that it contacts the inner edge of the pin to produce not only a vertical component of force, but a horizontal component of force. Clearly the Pfaff patent discloses a coaction between spreader and pin which produces both a vertical and horizontal component of force on the pin, but since the pin design disclosed in the preferred embodiment in the Pfaff patent is rigid in the vertical direction resisting downward motion, the predominant motion of the pin in the preferred embodiment of the Pfaff patent is laterally in response to the horizontal force created by the spreader. The claims in the Pfaff patent of course are not limited to the preferred embodiment disclosed in the specification and drawings.[82] Changing the shape of the pin design to permit vertical motion of the pin and moving the contact point between spreader and pin laterally from the contact point between the chip carrier and the pin does not produce a new function, or a new way of performing that function. It may be an improvement because of the enhanced amount of lateral movement of the pin away from the chip carrier, but the accused Wells sockets perform the same function in substantially the same way that is claimed in the Pfaff patent.

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[82] *Lockheed Aircraft Corporation v. United States*, 193 USPQ 449, at 458 (Ct. Cl. 1977). *SRI International v. Matsushita Electric Corp. of American*, 227 USPQ 577 at 585 (Fed. Cir. 1985) (in banc). *Sjolund v. Musland*, 6 USPQ2d 2020 at 2027.

Accordingly, this court finds that all of the accused Wells sockets infringe under the doctrine of equivalents as well as literally infringe the portion of claims 1, 7 and 19 calling for the spreader to contact the inner edges of the pins forming the cavity.

6b. Do The Wells Sockets Infringe The Language In The Pfaff Claims Requiring Axially Elongated Conductive Pins Under The Doctrine Of Infringement?

The Indiana Court found that the *axially elongated* amendment to claim 1 of the Pfaff patent[83] gave rise to the doctrine of prosecution history estoppel which in turn precludes resort to the doctrine of equivalents. The Federal Circuit agreed.[84]

This court has found in Section 5b. that the accused Wells sockets in Category A through Category D have *axially elongated* conductive pins. These pins are not identical in shape to the shape of the pins before the Indiana Court, and therefore the Indiana Court claim interpretation has no issue preclusive effect in the present case, either with regard to literal infringement or with regard to infringement under the doctrine of equivalents.[85]

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[83] Claim 7 of the Pfaff patent as originally filed already included this language and claim 19 presented for the first time after the second Office Action included this language.

[84] See discussion in the immediately previous Section 6a analyzing the same prosecution history estoppel issue with regard to the *inner edges* claim language.

[85] *Pfaff v. Wells Electronics, Inc.*, 28 USPQ2d at 1122 and 1124 (Fed Cir. 1993).

This court has reviewed Wells contentions set forth in the previous Section 6a. with regard to the *inner edges* claim language and has applied it to the *axially elongated* claim language analyzed in this Section 6b. The Category A through D Wells sockets have pins with a shape which permits both vertical and horizontal motion in response to the spreader cap forces. The Pfaff *axially elongated* pins in the preferred embodiment disclosed in the specification and drawings of the Pfaff patent have a shape which reacts predominately to the horizontal force produced by the downward motion of the spreader cap and reacts little, if any, to the vertical force produced by the spreader cap. Wells' contention more fully set forth in the preceding Section 6a. is that the presence of the ability to react to both components of force produced by the spreader cap results in achieving the same function as the Pfaff invention, but achieves that function in a different way.

This court cannot agree. The *axially elongated* shape of the pins in the Category A through Category D Wells sockets permits, indeed is necessary and essential for permitting the horizontal motion of the pin away from the chip carrier. Each of the Category A through Category D Wells pins have an *axially elongated* shape which permits the pins to be spread outwardly by the spreader cap to allow the chip carrier to be dropped into the cavity with zero insertion force. The Wells sockets in Categories A through D perform the same function in the same way as that described in the Pfaff patent, notwithstanding that such Wells sockets may also have an enhanced feature allowing a greater amplitude of horizontal motion of the

pin away from the chip carrier in response to the vertical component of force produced by the spreader.

In summary, this court finds with respect to claims 1, 7 and 19, that Category A through Category D Wells sockets have pins which are *axially elongated* when applying both a literal claim interpretation, and the doctrine of equivalents.

6c. Do The Wells Socket Categories B And C Have Pins With Barbs That Infringe Pfaff Claims 11 And 19 Under The Doctrine Of Equivalents?

Independent claim 19 calls for the inclusion of a barb projecting inwardly from the inclined edges of the pin, and dependent claim 11 calls for an inwardly projecting barb included in the inclined edges of the contact means. These claim limitations were not reviewed in any of the prior proceedings in the Indiana Court or in this case. This court has held in Section 5e. that claim 11 is literally infringed, but that claim 19 is not because while the pins have inclined edges, these inclined edges have no *barbs* projecting inwardly therefrom.

This court will therefore consider whether or not the *barb* limitations in claims 11 and 19 are infringed under the doctrine of equivalents. The function of the *barb* is defined in the Pfaff patent at column 5 beginning on line 64, "Since the barbs 51a move both laterally and downwardly when the blades 20b are released, the barbs 51a scrape the surface of the lands 11 to remove any oxidation therefrom and thus form good electrical contact with the lands 11 while also acting to retain the leadless chip carrier within the cavity." The latter function of retaining

the leadless chip carrier within the cavity is performed in the Pfaff patent by both the inwardly inclining edges of the pins and by the *barbs*. Horizontal movement of the leadless chip carrier is contained by the inwardly inclined edges, while vertical movement is restrained by both the barb and the inclined edges.

Wells argues that its accused pins do not perform the function of scraping the contact pad on the top of the chip carrier.[86] Pfaff's patent expert testified that there is nothing in the claims which requires that the barb scrape.[87] This court cannot find sufficient evidence that the Wells pins scrape the contact areas of the chip carrier, but the court also finds that claims 11 and 19 do not require that the barbs scrape. Further the court finds that the Wells pins in Category B and Category C (see Section 5b. for illustrations) perform the same function as the inclined edges to hold the chip carrier in place preventing both horizontal movement and vertical movement. Accordingly, the court finds that claim 11 is infringed both literally and under the doctrine of infringement.

The court does not find claim 19 infringed under the doctrine of equivalents or literally infringed. The doctrine of equivalents has been further defined since the *Graver Tank* case[88] to require that not only must there be a

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[86] Professor Bach, Wells' technical expert, agrees that the *barb* performs the hold down function at trial transcript page 800, lines 6-23, but denies that the devices perform the scraping function at trial transcript page 846, line 20 through page 847, line 8.

[87] Transcript page 914, lines 13 and 14.

[88] *Graver Tank & Mfg., Co. v. Linde Air Ads. Co.*, 339 U.S. 605, 85 USPQ 329 (1950).

substantial identity of the function, way and result for the device as a whole, but there must be substantial identity for each element of the device. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 USPQ2d 1737 (Fed. Cir. 1987). This court has already found in Section 5e. that the *barb* limitation as particularly defined in claim 19 is missing from the pins in the accused Wells sockets in Category B and Category C. Specifically, there is no barb projecting inwardly from the inclined edges as recited in claim 19. Pfaff argues that claim construction does not require that there be a separate structure for the barb, separate from the inclined edges. Pfaff directs the court's attention to the following:

> One-to-one correspondence of components is not required, and elements or steps may be combined without *ipso facto* loss of equivalency. Each case must be decided in light of the nature and extent of the differences between the accused device and the claimed invention, on the equitable principles of the doctrine of equivalents.[89]

The court finds no difficulty in following Pfaff's claim construction as it applies to the language in claim 11, but cannot ignore the clear structural recitation in claim 19. Since the barb element structure as expressly defined in claim 19 is missing, the court is reluctant to find that the requisite function/way/result is performed by another element of the accused device, such as the inclined edges (rounded corners) in the Wells Category B and Category C sockets. Claim 19 clearly calls for the

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[89] *Sun Studs Inc. v. ATA Equipment Leasing Inc.*, 10 USPQ2d 1338, 1347, 872 F.2d 978 (Fed. Cir. 1989).

function/way/result to be performed by a barb projecting from the inclined edges (rounded corners).

In summary, the court finds that the Wells sockets in Category B and Category C infringe claim 11 both literally and under the Doctrine of Equivalents, and do not infringe claim 19 either literally or under the Doctrine of Equivalents.

6d. Do The Wells Pins Define A Cavity Rectangular In Dimensions That Infringe Under the Doctrine of Equivalents?

In Section 5m. the court found that Wells devices with two rows of pins do not literally infringe the language in claims 7 and 19 calling for "the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions . . . " and "unitary spreader means comprising a substantially rectangular body." The court finds no proof of insubstantial differences between the claim language and the accused products with regard to this rectangular claim language.[90] The court considers the rectangular claim language to be significant in distinguishing over the prior art.[91] It would not be an insubstantial change to modify the invention defined in claim 7 calling for a four-sided pin arrangement so that the accused device has only two rows of pins defining the cavity. This results in a substantial change in the function

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[90] *Hilton Davis Chemical Co., v. Warner-Jenkinson Company, Inc.* ___ USPQ2d ___ (Fed. Cir. 1995).

[91] See Sections 10a., 10c., and 11.

of the accused device since it no longer can accommodate the popular chip carriers with leads on four sides.

Accordingly, the court finds that the Wells sockets listed in Section 5m. that do not infringe claims 7, 10, 11 and 19 literally also do not infringe these claims under the doctrine of equivalents.

6e. Do The Wells Sockets Infringe Other Elements Of The Asserted Claims Under The Doctrine Of Equivalents?

This court has analyzed a number of other elements in Sections 5a. through 5l. dealing with literal infringement in addition to those elements of the claims analyzed in Sections 6a through 6c dealing with the doctrine of equivalents. Where the parties have raised issues involving the doctrine of equivalents in their pre-trial and post-trial briefs, the court has addressed those issues specifically in Sections 6a through 6c. Since the court has found that the Wells sockets accused of infringement in this case literally infringe certain other elements of the claims, it will not specifically address the question of infringement of each of those other elements under the doctrine of equivalents. The court finds that in each case where there is literal infringement of such other elements of the claim, the Wells sockets perform substantially the same function in the [sic] substantially the same way to achieve the same result as defined in such claim elements.

7. Conclusion Regarding Infringement

Based on the foregoing, the court concludes that:

(a) The Wells sockets in Categories B, C and D[92] fall within the scope of claims 1 and 6.[93]

(b) Wells Model 642, the sole socket in Category A, does not infringe claim 6 because the central cavity of the body is not larger than the lateral area defined by the pins.

(c) Wells Model 642, the sole socket in Category A, falls within the scope of Pfaff claim 1.

(d) Wells Categories B and C sockets have pins with inner edges, but those inner edges do not have *barbs* protruding therefrom. Accordingly, these sockets do not infringe claim 19.

(e) Wells Model 663, one of the two models in Category B, does not infringe claim 10 since it does not have a centrally located aperture in the housing thereof. All other models in Category A through Category D are found to fall within the aperture language in claim 10.

(f) Wells Model 653 in Category B, Model 667 in Category D, Model 647 in Category D, and one size of Model 668 in Category D illustrated in Plaintiff's Exhibit 179 infringe claims 7 and 10. Model 653 is also charged with infringement of claim 11 and does so.

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[92] Categories B, C and D Wells sockets include Wells Model Nos. 653, 663, 648, 649, 652, 667, 668 and 647.

[93] Claims 1 and 6 are found to be invalid, see Section 10c.

All other Models have two parallel rows of pins and do not infringe claims 7, 10 or 11, and at least for the same reason do not infringe claim 19.

VALIDITY

8. Wells Contentions Regarding Validity

Wells argues that the patents in suit are invalid for three reasons. First, the Pfaff invention was placed on sale in this country more than one year prior to the date of application for patent. Second, the Pfaff patent is invalid based upon prior art. Third, certain claims of the Pfaff patent are invalid for failing to particularly point out the subject matter which Pfaff regards as the invention.

35 U.S.C. § 282 provides that, "a patent shall be presumed valid . . . the burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity." To overturn a patent, the attacker must convince the court of invalidity by clear evidence.[94] Accordingly, Wells bears the burden of showing invalidity by clear and convincing evidence.[95]

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[94] *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 770 (Fed. Cir. 1984).

[95] *Alco Standard Corp. v. Tennessee Valley Authority*, 808 F.2d 1490, 1498, 1 USPQ2d 1337, 1342 (Fed. Cir. 1986).

9. On Sale

35 U.S.C. § 102(b) provides as follows:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. . . .

The Pfaff application was filed on April 19, 1982 and therefore the critical date for purposes of the "on sale" bar is April 18, 1981. The following sequence is not in dispute. Late in the year of 1980, Mr. Wayne Pfaff was called by Texas Instruments and thereafter Mr. Pfaff sat down with representatives of Texas Instruments and was asked to develop a socket for its carriers. A sketch was made by Mr. Pfaff at that meeting of his socket concept. A company called Delta V. on behalf of Texas Instruments issued a purchase order[96] to Pfaff's company, Plastronics. This purchase order was dated April 8, 1981 and was a confirmation of an earlier verbal order of March 17, 1981. The purchase order references a Plastronics drawing No. P2020,[97] and was for 30,100 sockets. These sockets were intended for production use by Texas Instruments.[98]

As is apparent from a review of the Plastronics engineering drawings[99] Pfaff completed detailed engineering drawings of the patented concept even before the formal

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[96] Defendant Exhibit BZ.

[97] Defendant Exhibit BHA.

[98] Defendant Exhibit BM.

[99] Defendant Exhibits BD, BE, BF, BG, BH and BHA.

written purchase order of April 8, 1981 was issued. In fact, several of the engineering drawings by Pfaff were completed before the verbal order of March 17, 1981 which is referred to in the Delta V. written purchase order. Pfaff stated in a deposition[100] that he completed his engineering drawings in approximately one week. The drawings were then sent to a company called Weiss-Aug which was to turn-key or produce the sockets on behalf of Pfaff. Weiss-Aug completed at least one of its drawings prior to the critical date of the patent in suit.[101] During Mr. Pfaff's deposition he indicated that it is not his practice to produce prototypes since he goes strictly from drawings to hard tooling "that's the way I do my business."[102] In response to the question of whether when Mr. Pfaff came up with his initial drawings was his idea going to work, Mr. Pfaff stated: "It functions."[103] Mr. Pfaff indicated that his contract with Delta V. on behalf of Texas Instruments after finishing his drawings in late 1980 or very early 1981 was a "go" situation.[104] In response to the question, "You had a good enough working relationship that you had a 'deal'?", Mr. Pfaff responded, "Oh, yeah."[105]

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[100] Defendant Exhibit BO, at page 55.

[101] Defendant Exhibit BA.

[102] Defendant Exhibit BO, on page 57.

[103] Defendant Exhibit BO, at page 58.

[104] Defendant Exhibit BO, page 58.

[105] Defendant Exhibit BO, on page 59.

The products received by Pfaff from Weiss-Aug in July of 1981 were eventually shipped to Texas Instruments and were accepted and used.[106] The Plastronics drawings which are prior to the critical date depict accurately the claimed invention and are very similar to the actual patent drawings used in the Pfaff patent. Defendant's Exhibit BF depicts the spreader used in the Pfaff patent. Defendant's Exhibit BG depicts the body of the housing shown in Fig. 2 of the Pfaff patent. Defendant's Exhibit BH depicts the base member 15 utilized in the Pfaff patent. Defendant's Exhibit BD shows the contact in detail.

There was no reduction to practice of the invention prior to the critical date. Not a single component of the patented invention was actually reduced to physical form prior to the critical date. Nothing relating to the claimed invention existed prior to the critical date except drawings and the inventor's mental impressions. There had been no testing of any component of the patented invention prior to the critical date.

In a recent case the Federal Circuit restated the underlying policies that drive the § 102(b) analysis:

> Foremost among these is the policy of preventing inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term . . . To this end, the inventor is strictly held to the requirement that he file his patent application within one year of any attempt to commercialize the invention. The demands of this policy must be

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[106] Defendant Exhibit BO, at page 71.

> weighed with the sometimes inconsistent goals of encouraging prompt and widespread disclosure of inventions to the public, discouraging the removal of inventions from the public domain when the public has come to rely on their ready availability, and giving inventors a reasonable period to discern the potential value of an invention.[107]

Regarding the issue of whether or not an actual reduction to practice of the invention is needed before the critical date, the Federal Circuit has stated that:

> In view of all of the above considerations, we conclude that reduction to practice of the claimed invention has not been and should not be made an absolute requirement of the on-sale bar.
>
> We hasten to add, however, that we do not intend to sanction attacks on patents on the ground that the inventor or another offered for sale, before the critical date, the mere concept of the invention. Nor should inventors be forced to rush into the Patent and Trademark Office prematurely. On the other hand, we reject UMC's position that as a matter of law no on-sale bar is possible unless the claimed invention has been reduced to practice in the interference sense.[108]

Pfaff contends that the invention was a "mere" conception at the time of the critical date. Wells contends that the conception was in the form of completed detailed

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[107] *Ferag AG, v. Quipp Incorporated*, 33 USPQ2d 1512 (Fed.Cir. 1995).

[108] *UMC Electronics Co. v. United States*, 816 F.2d 647, 656, 2 USPQ2d 1465 (Fed. Cir. 1987).

engineering drawings from which Weiss-Aug produced the socket device.

Subsequent to the UMC case the Court of Appeals for the Federal Circuit provided more guidance on this issue in *A.B. Chance Co. v. RTE Corp.*, 854 F.2d 1307, 7 USPQ2d 1881 (Fed. Cir. 1988). In that case the patent holder argued that its offer for sale was "of a concept only because critical components of the claimed invention had not been developed, no embodiment had been built, and the inventors did not know and could not have known whether their invention would work."[109] The Federal Circuit found that inferences could be drawn in the patent holder's favor and that they created a genuine issue of fact which rendered the District Court's grant of Summary Judgment improper.

Wells contends that the facts in this case are different from the Chance case because Mr. Pfaff believed that his device would work. His practice was to bypass producing prototypes and go strictly from drawings to hard tooling without building any prototypes or testing them. Pfaff contends that with no prototype and not even a single component of the invention built, there was no way of testing the device prior to the critical date. Only after the device has been built, could any testing be done to determine whether or not the performance would meet the standards set forth in the Texas Instrument order.

There has been no evidence in this case that any part of the invention, whether it was an ordinary routine part

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[109] *A.B. Chance Co. v. RTE Corporation*, 854 F.2d 1307, 1311, 7 USPQ2d 1881 (Fed. Cir. 1988).

or a critical never-before-made part was in existence at the time of the critical date. No matter how confident the inventor was that his conception would work, even confident enough to order the expensive tooling, the conception embodied in the detailed drawings, although a complete conception, did not advance further than a "mere" conception. There has been no evidence presented of any prior product on which the patented invention was merely an improvement. Rather the inventive design appears to be totally new with respect to each component part. Neither the assembly of the parts nor any of the individual parts existed at the time of the critical date according to the facts presented in this case.

Accordingly, the court finds that there is insufficient evidence of an offer of sale prior to the critical date that would render the Pfaff patent invalid under 35 U.S.C. § 102(b).

10. Novelty

The statutory requirement that a patented invention be "new" is set forth in 35 U.S.C. § 102(a) and (b), which provides that:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more

> than one year prior to the date of the application for patent in the United States, . . .

Anticipation under § 102(a) or (b) requires that the identical invention that is claimed was previously known to others and thus is not new.[110]

10a. TO-5 Contactor

Wells has sold a socket device known as the TO-5 Contactor since the early 1970s. The TO-5 Contactor device includes a removable carrier portion for accepting a round transistor component with long leads arranged in a circle. The carrier portion is sectioned so as to electrically insulate and support the transistor leads.[111] The TO-5 Contactor further includes a top which is shiftable to engage a plurality of contacts to spread the contacts so that upon the top being appropriately positioned, the component leads are biased against the contacts. The TO-5 Contactor further includes a top shiftable to engage a plurality of contacts to spread the contacts so that upon the top being appropriately positioned, the component leads are biased against the contacts.

While the operation of the TO-5 contact is not clear from Defendant's Exhibit AW Drawing, the operation is clearly observable by inspecting the actual device, Defendant's Exhibit BR. The top of the device is shiftable

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[110] *Lindermann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984).

[111] Defendant Exhibit AW Drawing, and Exhibit BR Physical Exhibit.

vertically between two positions. When moved upward, the top spreads the contact pins which are arranged in a circle like the leads of the transistor. When moved downward, the circle of pins close toward the center. The removable carrier portion for accepting the leaded transistor component is placed into the upper portion of the top when the top is in the raised position. Upon lowering both the carrier and the top, the pins are released so that they engage the leads of the transistor. In order to remove the transistor, the top is raised so that the contact pins are separated from the transistor leads, allowing the carrier to be removed from the upper portion of the top.

From a visual inspection of the actual TO-5 Contactor, it is clear that the top and the carrier move reciprocally together and not independently.

Claim 1, paragraph (c) calls for "unitary means operable independently of said leadless chip carrier . . . ". Since the operation of the TO-5 Contactor does not permit independent reciprocal movement of the top and carrier, this limitation is not met by the TO-5 Contactor. Claim 1, paragraph 7 continues to define the function of the independent operation of the leadless chip carrier and unitary means "for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween." The independent operation allows the contacts to be spread by the unitary means and then at a later time, the leadless chip carrier can be inserted between the spread pins. As detailed in Section 10c. hereinbelow, "independently" was added by way of amendment to overcome prior art.

The court finds that claim 1 and dependent asserted claim 6 are not invalid under § 102 in view of the TO-5 Contactor.

Claim 7, paragraph (b) of the Pfaff patent calls for "the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions . . . ". Paragraph (c) of claim 7 calls for "unitary spreader means comprising a substantially rectangular body . . . ". The rectangular shape accommodates the common industry leadless chip carrier which may be inserted into the rectangular cavity.

The contact pins in the TO-5 Contactor are arranged in a circle to receive the leads of the circular transistor.

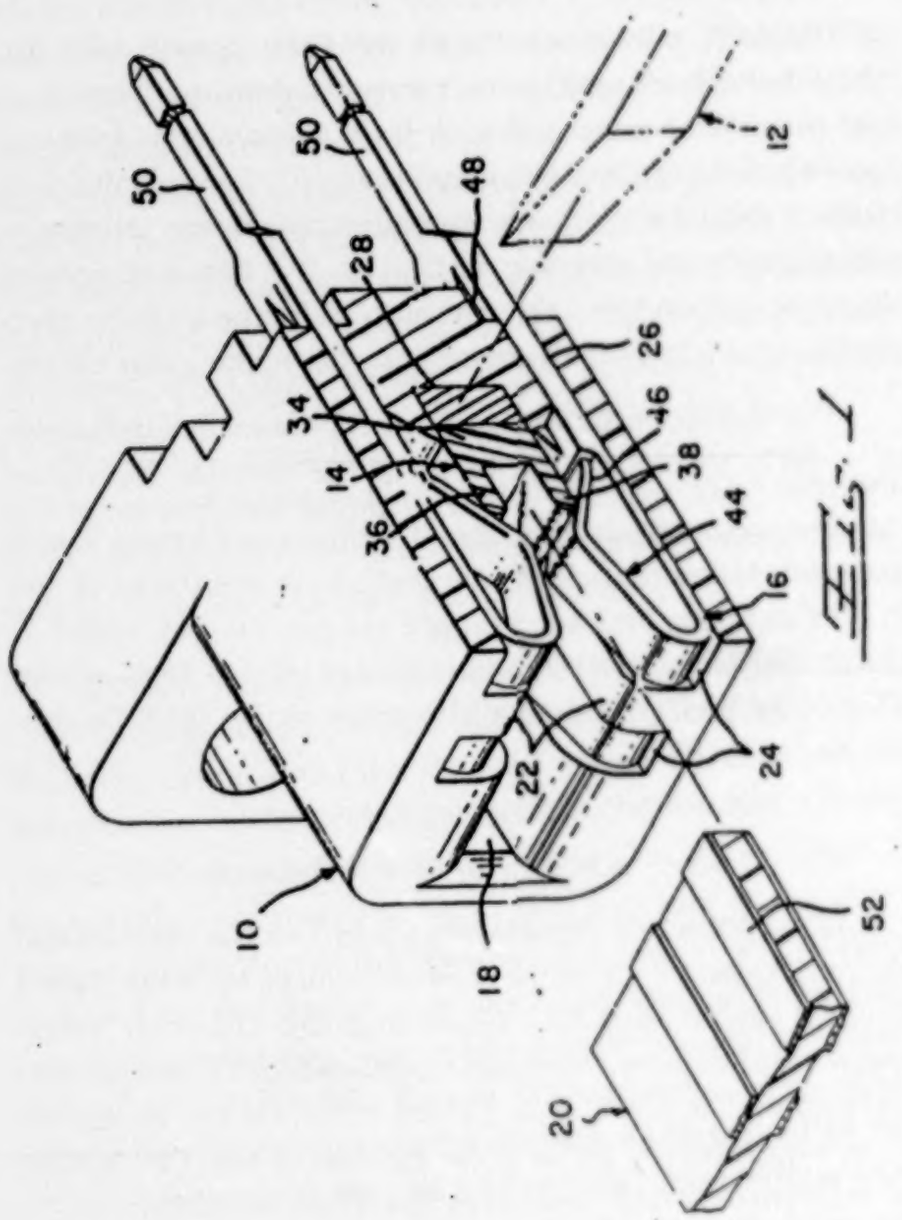
The court finds that the limitations of claim 7 and asserted dependent claims 10 and 11 are not found in the TO-5 Contactor and accordingly are not invalid under 35 U.S.C. § 102. Asserted independent claim 19 was not alleged by Wells to be invalid in view of the TO-5 Contactor under § 102.

10b. AMP Prior Art References

Wells contends that claims 1 and 7 of the Pfaff patent are anticipated by a number of references by AMP Incorporated under 35 U.S.C. 102(a) and (b). The AMP references are shown in Defendant's Exhibits S, H, M and AN. Defendant Exhibit S, U.S. Patent 3,899,234 by Yeager et. al. is suggested by Wells to be the best of the AMP group of references which describes the Pfaff invention.

Shown below is Figure 1 of the AMP/Yeager '234 patent.

AMP/Yeager Patent Produced by Wells



The Yeager device is a low insertion force connector for mounting printed circuit boards. In operation the cam member 12 is longitudinally inserted into groove 28 through the housing 10. With the cam 12 fully inserted, the sidewalls 36 and 38 of the contact driving member 14 engage the free ends 46 of the contacts and bias the contacts 16 to a position where they lie substantially fully within the recess 24 to clear aperture 18 and allow the insertion of the circuit board 20 without any wiping of the pads 52 on the circuit board by contacts 16 or force being applied to the board. When the circuit board 20 is fully inserted in aperture 18, the cam member 12 is withdrawn allowing the driving member 14 to return to the position prior to insertion of the cam member 12 under the resilient force of the contacts, as well as possible continued insertion force of the circuit board.

Claim 1, paragraph (c) calls for a "unitary means operable independently of said leadless chip carrier", and claim 7, paragraph (c) calls for a "unitary spreader means comprising a substantially rectangular body. . . . "

The word "unitary" was inserted into paragraph (c) of both claims 1 and 7 by way of amendment in order to overcome the Anhalt patent cited by the Examiner. Figure 2 of the Anhalt patent is illustrated hereinabove in Section 4.

After inserting the word "unitary", applicant argued in the Remarks in the Amendment responding to the second Office Action,[112] as follows:

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[112] See page 8 of Remarks in Defendant Exhibit D.

> Furthermore, applicant's device specifically defines a *unitary* spreader. In other words, instead of a pair of spreaders activated by a pair of mating cams activated by a actuating lever (five different complicated parts interconnected by a pin), applicant's device uses a *single unitary* part radically simplifying the design and cost of manufacture. The unitary design also greatly improves reliability since it has only one moving part as contrasted to six interrelated moving parts in the reference.

The court finds that the camming action in the Anhalt reference cited by the Examiner is very similar to the camming action in the Yeager and other AMP references produced by Wells. With respect to the camming action, the AMP references are no better than the Anhalt reference cited by the Examiner. The court finds that independent claims 1 and 7 and dependent claims 6, 10, and 11 of the Pfaff patent are not anticipated by the AMP references.

10c. Japanese Laid-Open Patent Application

Wells contends that claims 1, 6 and 7 of the Pfaff patent are anticipated by the Japanese patent application which was laid-open by the Japanese Patent Office.[113] Figures 4 (A) and (B) and Figures 5 (A) and (B) are illustrated below.

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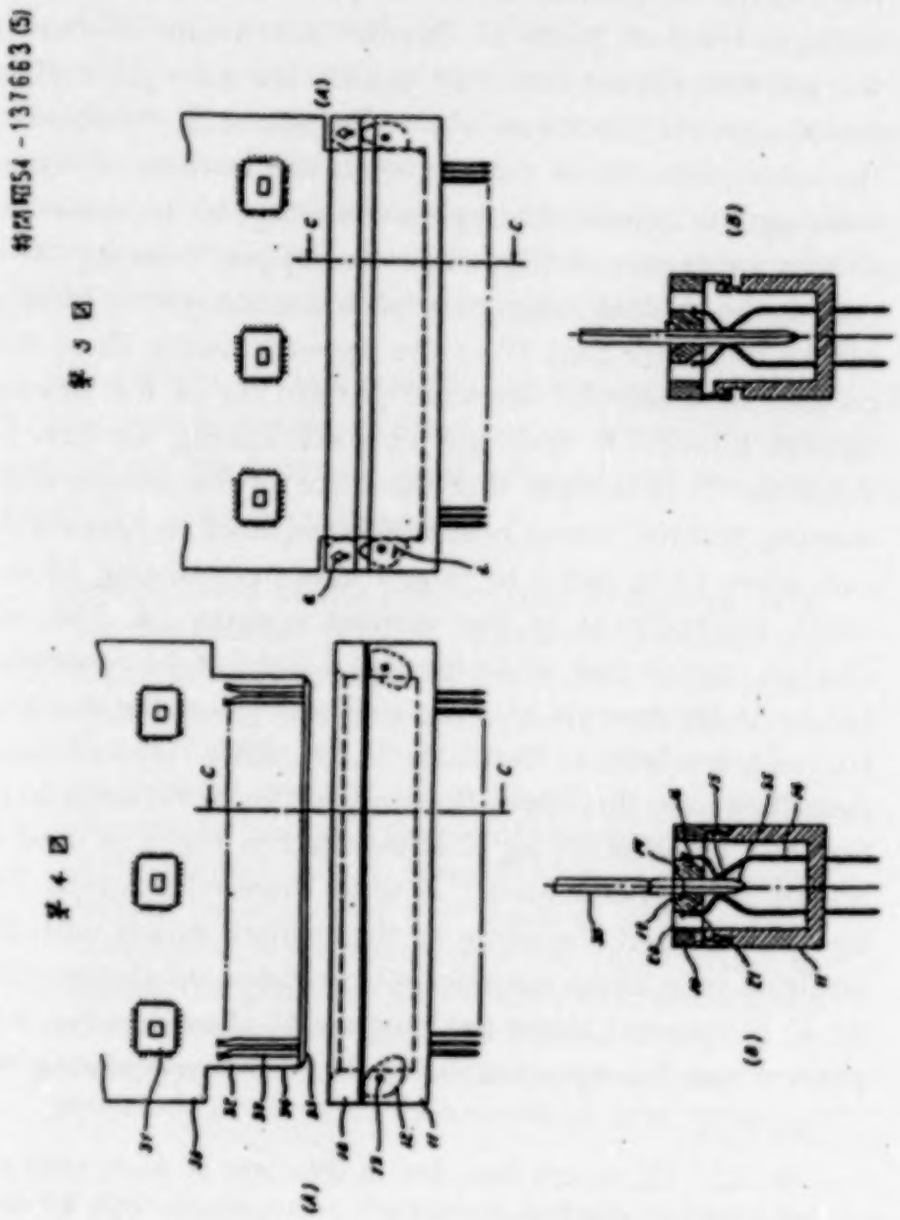
[113] Defendant Exhibit ALA.

Japanese Laid-Open Patent Application Produced by Wells



In operation when the printed circuit board 30 is inserted into the upper housing 10 and lower housing 11, the chamfered portion 35 of the printed circuit board 30 engages the cam plate 12. Further downward motion of the printed circuit board 30 causes the cam plate 12 to rotate counter clockwise about the shaft 13. Rotation of the cam plate 12 in contact with the bottom of upper housing 10 causes the upper housing 10 to raise. As shown in Figure 5 (B) when the upper housing 10 is raised, the leading edge 16 of each contact spring 14 slips off the shoulder part 17 of the upper housing 10 so that contact between the terminal pattern 33 of the printed circuit board 30 and the contact spring 14 can be achieved.[114] It is clear that the force of the downwardly moving printed circuit board 30 is required to operate the cam plate 12 in order to raise the upper housing 10 and cause engagement of the contact springs 14. The full English translation of Defendant's Exhibit ALA submitted by Defendant on May 31, 1995 and given the designation Defendant's Exhibit "ALA Full Translation" describes how the upper housing 10 can be restored to its lowered position. A jig 42 illustrated in Fig. 6 is used to restore the upper housing 10 to its lowered position. The jig 42 is shaped the same as the printed board with the addition of a press member 43 provided on the tip. The jig 42 is inserted along the grooves 41 shown in Fig. 6 to push down the upper housing 10, thereby restoring the

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[114] "Q. I'll accept that. But in this case of ALA, after the circuit board is inserted, it contacts a cam which then actuates the lid to release the pins; is that correct?

A. That's correct.", Trial Transcript in this case, page 556, lines 1-5.

upper housing 10 to the state for receiving another printed board to start the push-in/pull-out cycle again.

Claim 1, paragraph (c) calls for a "unitary means operable independently of said leadless chip carrier . . . ", and claim 7, paragraph (c) calls for a "unitary spreader means comprising a substantially rectangular body. . . . " The word "unitary" was inserted during the prosecution history of the Pfaff patent in order to overcome the Anhalt reference cited by the Examiner.[115]

The word "independently" was inserted into claim 1 in response to the first Office Action during the prosecution of the Pfaff patent. In the Remarks[116] the applicant made the following argument:

> Substitution of the contact pins of Eledge, et al for the contact pins of Pauza, et al would not solve the deficiencies of the Pauza, et al reference pointed out hereinabove. Neither Pauza, et al nor Eledge, et al show or remotely suggest any means *operable independently of the leadless chip carrier* and coacting with the *inner* surfaces of the contact pins to spread the pin and thereby permit insertion of the leadless chip carrier therebetween without using the chip carrier to spread the pins . . . Since each of these claims specifically require that the spreader pins coact with the *inner* surface of the contact pins *independently* of the chip carrier itself, and since no

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[115] See Section 10b. hereinabove for a quote from the Remarks of the applicant stating the purpose of the addition of the word "unitary".

[116] See page 5 of the Remarks in Defendant Exhibit D.

such structure is shown or even remotely suggested by either of the references, it is respectfully submitted that the rejection is inapposite and should be withdrawn.

Elsewhere in these same Remarks the applicant distinguishes the Pfaff invention from the Pauza reference cited by the Examiner[117] by pointing out that Pauza must apply pressure to the carrier to spread the contact pin arms.

As recited in Section 10 hereinabove, the applicant explained to the Examiner that the amendment to claims 1 and 7 adding the word "unitary" were made in order to overcome the Anhalt patent. "The unitary design also greatly improves reliability since it has only one moving part as contrasted to six interrelated moving parts in the reference."

The Japanese application teaches the use of multiple component parts in order to move the contact springs 14 into contact with the printed board, including the cam plates 12, shafts 13 and the upper housing 10. In operation the Japanese application does not use the cam plates 12 and shafts 13 to restore the springs 14 to the open position. Wells makes the argument that claim 1, paragraph (c) is a "means for" claim limitation for spreading the ends of the pins.[118] This argument invites the court to

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[117] See Section 4 hereinabove for an illustration of Figure 3 of the Pauza patent.

[118] Defendant's Reply to Plaintiff's Response to Defendant's Motion to Submit Into Evidence and To Make Part Of The Record The Full English Translation of Previously Admitted Foreign Reference, filed June 21, 1995, page 4.

ignore the teachings in the Japanese reference of the use of multiple parts, and to focus instead on just the portion of the Japanese reference that teaches how the spreading of the pins is accomplished. The court finds that this is appropriate. The upper housing 10 spreads the contact springs 14 without the use of the cam plate 12 and shaft 13. The Japanese patent application teaches how to spread the contact pins in the same manner as taught and claimed in the Pfaff patent.

The court finds that the unitary means operable independently of said leadless chip carrier recited in paragraph (c) of claim 1 is disclosed by the operation of the upper housing 10 in the Japanese patent application which operates independently of the printed board 3 for uniformly spreading the ends 2' of the contact springs 2. The court notes that paragraph (c) of claim 1, second line recites "leadless chip carrier" while the Japanese application discloses a printed board 3. However, in the context of the recitation of the unitary means in paragraph (c) of claim 1, no distinction can be observed by the court.

The court also finds that all other elements of claim 1 and claim 6 of the Pfaff patent are disclosed in the Japanese application.

Regarding claim 7, the court has already in Section 10(a) in connection with the TO-5 contactor observed that claim 7, paragraph (b) calls for "the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimension . . . ". The rectangular shape is also called for in paragraph (c) of claim 7 "unitary spreader means comprising a substantially rectangular body . . . ".

The rectangular shape accommodates the commor adus-try leadless chip carrier which may be inserted into the rectangular cavity.

Just as the TO-5 Contactor failed to disclose the rectangular shape, the Japanese application also fails to show the rectangular shape for accommodating the leadless chip carrier, and instead discloses the pins 2 arranged as an edge board connector for accommodating the printed board 3. The court finds that independent claim 7 and dependent claims 10 and 11 are not anticipated by the Japanese application.

In summary, the court finds that claims 1 and 6 are anticipated by the Japanese application, and claims 7, 10 and 11 are not anticipated by the Japanese application.

10d. Is the Japanese Laid-Open Patent Application A "Printed Publication"

Pfaff contends that the Japanese patent application which was laid open by the Japanese Patent Office is not a "printed publication" within the meaning of 35 U.S.C. 102(b). Pfaff directs the court's attention to the Court of Customs and Patent Appeals case *In re Wyer*.[119] In that case an Australian patent application was laid open to public inspection by the Australian Patent Office and a printed abstract thereof was published. It was the practice of the Australian Patent Office when the abstract of an Australian application was published to produce two

[119] *In re Wyer*, 210 USPQ 790 (Court of Customs and Patent Appeals 1981).

microfilm copies of eacn specification. One of the microfilm copies was retained in the Australian Patent Office as a security reel, while a second copy was provided in altered form to five suboffices of the Australian Patent Office where the specification of the Australian patent application can be viewed on a display screen by members of the public.

The Court of Customs and Patent Appeals referred to a prior case[120] when considering the question of whether a reference is a "printed publication" and a bar to patentability as follows:

> . . . upon a satisfactory showing that such document as been [sic] disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it and recognize and comprehend therefrom the essentials of the claimed invention without need for further research or experimentation.

The Court of Customs and Patent Appeals found that the laid-open Australian patent application was a "printed publication" and accordingly sustained the USPTO Board of Appeals decision sustaining the Examiner's rejection. However, the Court of Customs and Patent and Appeals was not ready to approve the sweeping statement made in the Board of Appeals decision, that

> . . . the time has come to hold that a microfilm of a foreign patent application maintained in the

[120] *I.C.E. Corp. v. Armco Steel Corp.*, 250 F. Supp. 738, 742, 743, 148 USPQ 537, 540 (SD NY 1966).

> foreign patent office, accessible to the pertinent part of the public and available for duplication is a "printed publication" . . .

The Court of Appeals for the Federal Circuit in the *In re Wyer* case stated that

> We are approving its decision on the totality of the facts of this case, several of which are missing from that statement. Decision in this field of statutory construction and application must proceed on a case-by-case basis.

Pfaff objects to the use of the Japanese laid-open application as a reference since there has been no evidence introduced during the trial of this case that the Japanese laid-open application has been disseminated or otherwise made available as required in the *In re Wyer* case quoted above.

At the request of the court,[121] Wells has provided information describing the process followed by the Japanese Patent Office in laying open patent applications for inspection by members of the public.

Wells provided a single page description of the Japanese Patent Office procedure entitled, OPPOSITION PRACTICE by Shigeshi Tanaka.[122] According to Wells, the Tanaka page is from a synopsis of Japanese patent practice and explains what Laid-Open means. It states that "all patent applications are disclosed to the public after eighteen months from the filing date or, [the date of] the

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[121] Transcript of Oral Argument on issues of validity, December 8, 1994, pages 995-999, 1078-1084, and 1161 and 1162.

[122] Transcript of December 8, 1994 Oral Hearing, page 1078.

earliest priority date of the application . . . After the application is laid-open, any party may provide information to the Patent Office concerning the reasons to reject the patent application based on prior art or inadequate disclosure. . . . "

Wells has also provided to the court a copy of the cover and index pages 1-6 of the actual publication document issued by the Japanese Patent Office in which the Japanese laid-open application is listed.[123] The cover page indicates that the index was issued on October 25, 1979 and that the index includes patent application laid-open Nos. 54-137601 through 54-137700. The application laid-open number for the Japanese patent application produced in this case is 137,663. This application appears as index number 53 on page 4 of the index. The international class for the Japanese laid-open patent application in this case is set forth in the index. Other information about this application is set forth in the index, but appears in the Japanese language and has not been translated.

Wells provided further communication to the court[124] in which it contended that the above-described index is, in fact, the cover page and first six pages of the Japanese Patent Office Gazette in which the Japanese laid open application Exhibit No. ALA was published. According

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[123] Letter from James D. Hall dated February 6, 1995 enclosing a seven-page document in the Japanese language and a translation of the cover page.

[124] COMMENTS OF DEFENDANT ON DRAFT REPORT REGARDING FINDINGS OF FACT AND CONCLUSIONS OF LAW RECOMMENDED BY THE SPECIAL MASTER, Filed April 3, 1995, bottom of page 15 and top of page 16.

to Wells the page numbers printed at the bottom of Exhibit ALA, 297 through 301 are consecutive numbers in the same Gazette that contain the index pages 1-6. This would tend to indicate that all of the Japanese patent applications listed in the index were published in printed form in the Gazette on October 25, 1979, the date the Gazette was issued.

Wells also provided along with its April 3, 1995 comments, a Manual which describes the Japanese Patent Office procedure for publishing patent applications 18 months after the filing date, "the method of divulgation of a patent application consists in that the full text of specification, claims and drawings (with amendment, if any) are printed in the Patent Gazette."[125]

The court has considered the documents supplied by Wells in response to the court's requests, and finds that there has been a "printed publication" of the Japanese laid-open patent application.

11. Obviousness

35 U.S.C. § 103 provides, that

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the difference between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

[125] MANUAL For The Handling Of Applications For Patents, Designs and Trademarks Throughout The World, Octrooibureau Los En Stigtert – Amsterdam, Supplement No. 66, September 1992, page 5 of the chapter on JAPAN, paragraph 2, Attachment to COMMENTS OF DEFENDANT ON DRAFT REPORT REGARDING FINDINGS OF FACT AND CONCLUSIONS OF LAW RECOMMENDED BY THE SPECIAL MASTER, filed April 3, 1995.

Obviousness is reviewed as a legal conclusion based upon underlying facts of four general categories.

(1) The scope and content of the prior art;

(2) The differences between the prior art and the claims at issue;

(3) The level of ordinary skill in the pertinent art; and

(4) Any secondary considerations such as commercial success, long-felt but unsolved needs, and failure of others.[126]

When determining the patentability of a claimed invention which combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.[127]

One of the differences between the prior art TO-5 Contactor and claim 7 discussed in Section 10a. is the limitation in claim 7, paragraph (c) calling for a "unitary spreader means comprising a substantially rectangular

[126] *Graham v. John Deere Co.*, 383 U.S. 1, 17, 86 S.Ct. 684, 693, 15 L.Ed.2d 545, 148 USPQ 459, 467 (1966).

[127] *Lindermann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

body" and the limitation in claim 7 (b) calling for "contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions . . . ". The TO-5 Contactor discussed above in Section 10a. is round and accordingly does not meet this limitation. Wells contends that "Although the TO-5 is round, the Defendant submits that the particular configuration of the chip carrier is not relevant. Carriers could be circular as well as rectangular depending upon the particular environment in which the particular carrier is to be utilized or received."[128] Wells alleges that a TO-5 device was made in which the cavity in the top of the Contactor was rectangular in shape to accommodate a similar shaped electrical device, but provides no supporting evidence of this device. No other combination of references is suggested.

The court finds that Wells has not shown by clear and convincing evidence that claim 7 is obvious in view of the TO-5 Contactor. Claim 19 which has similar limitations, including the rectangular configuration, and Claims 10 and 11 which are dependent upon claim 7 are also not invalid under Section 103 based on the TO-5 Contactor.

Claim 1 of the Pfaff patent in sub-paragraph (c) calls for "unitary means operable independently of said leadless chip carrier . . . ". In Section 10a. above, the court found that the TO-5 Contactor did not contain a spreader cap which operated independently from the carrier on which the leaded transistor is mounted. Wells notes that

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[128] Defendant's Trial Brief filed November 23, 1993 at page 26.

the words "operable independently of said leadless chip carrier" were added to claim 1 in an amendment filed during the prosecution of the Pfaff patent. Wells maintains that in this amendment Pfaff's attorney explains that the meaning of the language "operable independently of the leadless chip carrier" is in reference to the spreader means first or initially contacting and engaging the pins instead of the chip carrier as was the case in the Pauza reference being distinguished. With this understanding of the term "operable independently", it is readily seen according to Wells that the top in the Wells TO-5 device does make initial contact with the pins of the device independently of the carried component. According to Wells, claims 1 and 6 are at the very least rendered obvious under 35 U.S.C. § 103 by the TO-5 device.[129]

The court cannot agree that "operable independently" means that the top or spreader should make initial contact with the pins independent of the member carrying the component. The court's construction of "operable independently" does not include the possibility of the top or spreader moving in piggy-back fashion with the member carrying the transistor component as in the Wells TO-5 Contactor. There is no suggestion in the operation of the TO-5 Contactor that the top or spreader can be moved to spread the pins and then in an independent manner the transistor component mounted on the carrier can be dropped into place at a later time. Since there is no suggestion of this independent operation, claim 1 is not rendered obvious under § 103 by the TO-5 Contactor.

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[129] Defendant Trial Brief filed November 23, 1993 at pages 27 and 28.

Dependent claim 6 incorporates all the limitations of claim 1 and accordingly cannot be rendered obvious for the same reasons.

With regard to the Yeager '234 patent,[130] and the language in claim 7 calling for a rectangular configuration, Wells asserts that "such rectangular orientations to accommodate multiple sided electronic components are not new in the art as observed in such references as Defendant's Exhibits E, L, O, P and ABO."[131]

Wells does not point out any teaching in these Exhibits that would suggest combining any of them with the Yeager '234 patent or with any other references considered by the court, and the court can find nothing in these exhibits which would suggest such combination. Accordingly, claim 7, dependent claims 10 and 11 are found not to be invalid under § 103 in view of the Yeager reference and Defendant's Exhibits E, L, O, P and ABO.

Wells also contends that "anyone versed in the state-of-the-art mechanical motion and design of contacts could easily infer the Pfaff patent from the patent shown in Defendant's Exhibit S as well as the two other exhibits."[132] The court understands this to mean that Wells believes the Pfaff patent is obvious in view of the Defendant's Exhibit S Yeager '234 patent. The court found in Section 10b. above that the Yeager patent lacked the

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[130] Defendant Exhibit S.

[131] Defendant's Trial Brief filed November 23, 1993 at page 30.

[132] Defendant's Trial Brief filed November 23, 1993 at page 32.

unitary spreader means called for in claims 1 and 7. As shown in Figure 1 of the Yeager '234 patent appearing in Section 10b. above, the court considers the cam member 12 to be part of the member 14 which spreads the pins 44. Wells contends that the Pfaff invention requires a pressure actuator which forces the Pfaff unitary spreader downward. According to Wells, the cam member 12 is no more a part of the spreader than the pressure actuator is a part of the spreader means of Pfaff.[133] The court cannot agree with Wells' interpretation of the cam member 12 and its operation in the Yeager '234 patent. There is a substantial difference between the invention as defined in claims 1 and 7 and the illustrated operation of cam member 12 in the Yeager '234 patent. There is very little structural similarity between the contact driving member 14 of Yeager and the spreader cap 40 of the Pfaff invention. Neither the placement of these components within the overall device or their operation is similar. The court cannot find nor has Wells suggested any teaching in the Yeager '234 patent of the unitary spreader means disclosed and claimed in the Pfaff patent. Accordingly, independent claims 1 and 7 and dependent claims 6, 10 and 11 are found not to be obvious in view of the Yeager '234 patent, or any of the other similar AMP references.[134]

Wells contends that claims 11 and 19 containing the "barb" limitation are obvious under § 103 in view of a combination of the AMP references, particularly the

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[133] Defendant's Trial Brief filed November 23, 1993 at page 32.

[134] Other AMP references include Defendant Exhibits H, M and AN.

Yeager '234 patent and the barb disclosures in Defendant's Exhibits Z and ABY,[135] and a further combination of the TO-5 Contactor with the Lazar '382 patent.[136] Both the AMP references and the TO-5 Contactor lack a teaching of barbs on the Contactor pins. They also lack the teaching of other elements of the Pfaff invention defined in claims 11 and 19. Specifically, claim 19 calls for the "rectangular" configuration and claim 11 calls for both the rectangular configuration and the unitary spreader means. No combination of prior art suggested by Wells teaches all of the limitations in claims 11 and 19. The court finds that Wells has not provided clear and convincing evidence that claims 11 and 19 are obvious under § 103.

In Section 10c the court found that claims 1 and 6 of the Pfaff patent are anticipated by the Japanese application. On the other hand, dependent claim 7 is not anticipated by the Japanese application because of the limitations in claim 7, paragraph (c) calling for a "unitary spreader means comprising a substantially rectangular body" and the limitation in claim 7(b) calling for "contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions . . . ". These same limitations were discussed with reference to the TO-5 Contactor earlier in this Section 11. The court found that the TO-5 Contactor did not render

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[135] Defendant's Trial Brief filed November 23, 1993 at page 33.

[136] Transcript of oral argument December 8, 1994 at page 1077, and transcript of the trial on July 7, 1994, pages 374 and 375.

claim 7 obvious. This court likewise finds that the teachings in the Japanese application fail to provide more than the TO-5 Contactor, and for the reasons given earlier in connection with the TO-5 Contactor, the court finds that claim 7 is not obvious in view of the Japanese application alone, or in combination with any of the other prior art asserted by Wells. Claims 10 and 11 are dependent upon claim 7, and claim 19 recites the same language quoted from claim 7 in this Section 11 and accordingly are not invalid under § 103.

In reaching the above findings on obviousness, the court has been mindful of other factors considered under the *Gramm v. John Deere* case.[137] The court finds that the level of skill in the art of sockets for leadless chip carriers encompasses a degree of knowledge and experience typified by mechanical design engineers working in the field of electronic device packaging. Commercial success relating to the merits of the invention is evidenced by dramatic increases in annual sales of the patented device following its introduction by Pfaff in 1981. Sales of the patented device were as follows:

YEAR	SALES
1981	$ 350,000.00
1982	937,000.00
1983	2,800,000.00
1984	3,430,000.00
1985	4,088,000.00
1986	5,900,000.00

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[137] *Gramm v. John Deere Co.*, 383 U.S. 1, 86 S.Ct. 684, 15 L. Ed. 2d 545, 148 USPQ 459 (1966).

12. Indefiniteness Under 35 U.S.C. § 112

35 U.S.C. § 112 provides in part that:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the Applicant regards as his invention.

Wells contends that claim 1 of the Pfaff patent is invalid under § 112 for failing to particularly point out the subject matter which the applicant regards as his invention. In claim 1, column 7, lines 9-11 there contains the language:

> . . . inner edges of said pins converging slightly inwardly with distance from said first major face . . .

Also, in claim 1, column 7, lines 14-16, the unitary means or spreader is described as performing the function of:

> . . . coacting with *said* (emphasis added) inner edges of said pins for uniformly spreading the ends of said pins . . .

Wells contends that the language quoted above from claim 1 is not disclosed in the drawings nor is it described in the specification. Wells interprets the claim to call for

the unitary spreader means to engage the inwardly converging edges of the pins and then points out that the drawings and specification disclose that the unitary spreader means contacts the outwardly inclined edges of the pins.

The court cannot agree with Wells' interpretation of claim 1 which would make it inconsistent with the drawings. Claim 1 calls for the unitary means to coact with the *inner edges of the pins*, not with the inner edges of the pins *which converge slightly inwardly*. Claim 1 neither calls for the unitary means to coact with the inner edges which converge slightly inwardly nor to coact with the inner edges which are outwardly inclined. Claim 1 simply calls for the unitary means to coact with the inner edges, and by inspecting the drawings that is what is disclosed. Further, the court finds that there is no need for claim 1 to specify which portion of the inner edges of the pins makes contact with the unitary means.

The second contention that Wells makes with respect to § 112 relates to claims 7 and 19. Wells contends that there is language in sub-paragraph (b) of claims 7 and 19 stating that:

> . . . the ends of said contact means defining said cavity having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel to said first major face . . .

Wells states that the patentee appears to be describing the edges of the contact means as being inclined in the first and second planes, each paralleling a first face of

the supporting housing. Wells complains that the description and specification of the Pfaff patent does not contain any explanation or definition as to what the first and second planes refer to, nor is it understood how a group of inclined edges lie in any plane paralleling any surface of a support housing. What is expressed in the claims 7 and 19 with respect to the angles of incline of the contacts is not geometrically possible and renders the claims indefinite under 35 U.S.C. § 112, second paragraph.[138]

Section 2 above describes the Pfaff invention and concludes with an illustration of Figures 4 and 5 of the patent drawings. With reference to Figure 5 and with the aid of the specification of the Pfaff patent, the pins have two blades (20a and 20b). The blade 20b has on its right side two inclined edges facing the inside of the mounting means where the leadless chip carrier is inserted. There are four rows of pins all having their blades 20b arranged in a rectangle to define a rectangular-shaped cavity (better illustrated in Figure 1 of the Pfaff patent). The inner edge of the blade 20b is recited in claim 7, line 5 to incline inwardly toward said cavity and is labeled 51 in Figure 5. Inclined inner edge 51 extends from the point where leader line 51 engages the inner edge of blade 20b and extends down to the upper face of housing 16. The plane as set forth in claim 7, line 6 can be considered to cut through the inner edge 51 of each of the blades 20b arranged in the rectangular configuration.

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[138] Defendants Trial Brief filed November 23, 1993 at pages 34 & 35.

With this understanding of the configuration of the pin in Figure 5, it can be seen that claim 7, line 5 calls for the edges 51 to be inclined inwardly *in* (emphasis added) a plane substantially parallel with the upper face of housing 16. Referring back to Figure 5, the inner edge of blade 20b also has another portion labeled "50" which inclines outwardly from the cavity. With this understanding of the Pfaff invention has illustrated in Figure 5, the claim 7, line 7 call for the inner edge of blade 20b to have an outwardly inclined portion 51 which intersects a second plane substantially parallel with the upper surface of body 16. Each outwardly extending inner edge 50 of the array of rectangular pins intersects a plane parallel to the upper face of housing 16. Accordingly, it can be said that each outwardly inclined edge 50 is *in* (emphasis added) a second plane.

It is well established that claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification and giving them their broadest, reasonable interpretation.[139] The court finds that Wells has not met its burden of showing by clear and convincing evidence that the claims 1, 7 and 19 are indefinite under § 112.

13. Conclusion Regarding Validity

Based on the foregoing, the court concludes that:

(a) The invention in the Pfaff patent was not on sale prior to the critical date.

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[139] *In re Marosi*, 710 F.2d 799, 218 USPQ 289, 292 (Fed. Cir. 1983).

(b) Claims 1 and 6 in the Pfaff patent are anticipated by Japanese laid-open application under 35 U.S.C. § 102(b), while the remaining asserted claims 7, 10, 11 and 19 are not.

(c) The asserted claims in the Pfaff patent are not anticipated by the AMP references or the TO-5 Contactor.

(d) The Japanese laid-open application is a "printed publication".

(e) Claims 7, 10, 11 and 19 in the Pfaff patent are not obvious under 35 U.S.C. § 103 in view of the prior art discussed herein.

(f) The asserted claims are not indefinite under 35 U.S.C. § 112.

Respectfully submitted,

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Wayne K. PFAFF,
Plaintiff-Appellant,

v.

WELLS ELECTRONICS, INC.,
Defendant-Appellee.

No. 92-1431.

United States Court of Appeals,
Federal Circuit.

Sept. 10, 1993.

Barry L. Grossman, Banner, Birch, McKie & Beckett, of Washington, DC, argued for plaintiff-appellant. With him on the brief was Joseph M. Skerpon.

James D. Hall, Oltsch, Knoblock & Hall, P.C. South Bend, IN, argued for defendant-appellee.

Before PLAGER, Circuit Judge, BENNETT, Senior Circuit Judge, and SCHALL, Circuit Judge.

PLAGER, Circuit Judge.

Plaintiff Wayne K. Pfaff appeals the judgment of the United States District Court for the Northern District of Texas (district court or Texas court), No. 3-91-CV-1542-H (June 2, 1992), in a patent infringement suit. The district court granted summary judgment of noninfringement to defendant Wells Electronics, Inc. (Wells). We reverse and remand for further proceedings because the district court erred by resolving a disputed material factual issue on summary judgment.

FACTUAL BACKGROUND

Pfaff is the inventor and owner of United States Patent No. 4,491,377 ('377 patent), which relates to a housing for mounting and testing leadless chip carriers.[1] Pfaff's housing contains three basic elements: (1) a base support, (2) conductive pins arranged vertically on the base to form a rectangular cavity the size of the leadless chip carrier, and (3) an open lid or spreader on top of the pins. For convenience, a chip enclosed in a leadless chip carrier is hereinafter referred to simply as a "chip."

To operate the device, one depresses the lid, which presses against the conductive pins, thus spreading them outward to increase the cavity's size. The chip can then be inserted through the opening in the lid into the cavity defined by the pins. When the lid is released, the conductive pins spring inward to make electrical contact with the chip. The pins not only provide electrical contact, but also hold the chip securely in place. To remove the chip, one inverts the housing and presses on the lid; this spreads the pins and allows the chip to fall out.

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[1] A leadless chip carrier is a protective enclosure for chips. An integrated circuit chip is packaged within a ceramic or plastic carrier which incorporates electrical leads for connecting the chip to other circuitry. More recently, the industry has replaced the conventional leads with terminal lands, or contact pads, around the periphery of the carrier. When a leadless chip carrier is mounted for testing or for connection with a circuit board, the terminal lands on the carrier must be aligned with corresponding contacts in the housing into which the carrier is placed.

Claim 1 of Pfaff's patent, which is representative of the claims at issue,[2] reads:

> 1. Mounting means for a leadless chip carrier comprising:
>
> (a) base support means having first and second oppositely disposed major faces;
>
> (b) a plurality of axially elongated conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces, *the opposed inner edges of the ends of said pins* extending from said first major face *arranged to define a cavity* substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier in a plane parallel with said first major face and the inner edges of said pins converging slightly inwardly with distance from said first major face; and
>
> (c) unitary means operable independently of said leadless chip carrier reciprocally moveable axially with respect to said pins and *coacting with said opposed inner edges* of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween. [emphasis added]

In 1986 Pfaff sued Wells in the United States District Court for the Northern District of Indiana (Indiana court), alleging that two of Wells' devices infringed claims 1 and 6-10 of the '377 patent. Wells counterclaimed

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[2] Pfaff states that claim 1 "may be considered as representative of all the claims for the purposes of this appeal." Appellant's Br. at 16.

that Pfaff's patent was invalid. The Indiana court held that Pfaff's patent was not invalid and that Wells' devices did not infringe claim 1 of Pfaff's patent because their pins were not "axially elongated" and did not have opposed inwardly converging inner edges. Instead, the pins "are shortened and are rolled outwardly by a return bent portion." Furthermore,

> [t]he unitary spreader means of the Wells device does not coact with those inner edges of the conductive pins that define the cavity. The unitary spreader means of the Wells device coacts with an arm extended from the pins. Even if the court views the arms . . . as inner edges of the conductive pins, those "inner edges" formed by the arms are not the same "inner edges" that define the cavity.

Pfaff v. Wells Electronics, Inc., 9 USPQ2d 1366, 1369-70 1988 WL 156744 (N.D.Ind. 1988), *aff'd*, 884 F.2d 1399 12 USPQ2d 1158 (Fed.Cir.1989) (nonprecedential).

The Indiana court also held that prosecution history estoppel prevented Pfaff from claiming infringement under the doctrine of equivalents. The Patent and Trademark Office (PTO) Examiner had rejected original claim 1, as filed, on the grounds it was anticipated by (1) William Pauza et al., U.S. Patent No. 3,753,211, which discloses a direct force insertion device in which the lid presses against the outer edges of the pins to force them inwardly into contact with a chip, and by (2) Anhalt, U.S. Patent No. 4,159,861, which discloses a device in which pins rise from the base with an inward incline and then bend outward in a semi-circular fashion to end in a downwardly extending arm, and in which a camming device

presses upwardly against the semi-circular portion of the arms to retract the pins outwardly. To distinguish these references, Pfaff amended Claim 1 to recite "axially elongated" to describe the pins and the phrase "coacting with said opposed inner edges of said pins" in reference to the spreader.

In affirming that decision, this court said that "the claim requires the coaction of the spreader means with the pin ends' inner edges which define the cavity." *Pfaff v. Wells Electronics, Inc.*, 12 USPQ2d 1158, 1159, 884 F.2d 1399 (Fed.Cir.1989) (nonprecedential). We agreed with the Indiana court that Wells' devices were noninfringing because their pins were not axially elongated and did not incline in a plane substantially parallel to the first major face, and because their spreaders coacted with a portion of the pin ends that did not define the cavity. We also agreed with the Indiana court that prosecution history estoppel prevented Pfaff from construing Wells' pins and spreader as equivalents; "Pfaff amended his claims [to overcome prior art by] adding 'axially elongated' to limit his pins and 'inner edges' to limit the structure defining the cavity." *Id.* at 3.

On August 1, 1991 Pfaff commenced this suit in Texas, alleging that six of Wells' subsequently-developed devices infringed claims 1, 6-7, 10-11 and 19 of his patent. On April 15, 1992 Wells moved for summary judgment. On May 1, 1992 Pfaff filed a brief in opposition; on May 11, 1992 Wells replied. On June 2, 1992 the Texas court granted summary judgment to Wells. With regard to literal infringement, the court said:

> Defendant's six devices depart from at least one *essential* element of Plaintiff's Patent claims. Specifically, the unitary spreader means of Defendant's six devices do *not* coact with the inner edges of the conductive pins that define the cavity. . . . Defendant's unitary spreaders coact with portions of the pins which are *laterally removed* from the inner edges of the pins which define the cavity. In no instance do the unitary spreaders come in contact with the cavity.
>
> Defendant also argues that two other essential elements of the Plaintiff's claims are not satisfied by the accused device: the pins in the accused device are not axially elongated, and they do not inwardly incline [in] any plane substantially parallel to the first major face of the socket housing. The Court, however, need not address Defendant's additional arguments because as stated above, the fact that a single element essential to the Patent Claims 1 and 7 is not present in the accused device defeats Plaintiff's assertions of infringement.

Pfaff v. Wells Electronics, Inc., No. 3-91-CV-1542-H, slip op. at 6-7 (N.D.Tex. June 2, 1992) (emphasis in original).

The court also found no infringement under the doctrine of equivalents:

> It is beyond question, and the Indiana Court has so found, that one of the specific elements amended by Plaintiff to overcome the deficiencies of his application Claims 1 and 7 was that the spreader means operated on and coacted with the *inner* edges of the pin, as contrasted to the outer edges.

> Furthermore, the *inner* edges of the pins was defined as those edges "mating with" or "defining the cavity". Plaintiff now can not contend that Defendant's devices with the spreader means coacting with the outer edges of the pins which do not mate with or define the cavity are equivalents. The doctrine of prosecution [history] estoppel defeats Plaintiff's reliance on the doctrine of equivalents.

Id. at 9 (emphasis in original, citations omitted).

On June 12, 1992 Pfaff filed a motion for reconsideration and submitted deposition excerpts and an expert affidavit testifying that the Wells spreaders coact with "inner edges" of the conductive pins. On June 17, 1992, the district court denied reconsideration.

DISCUSSION

Summary judgment is proper only if there is no genuine issue of material fact and the prevailing party is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(c). All evidence must be viewed in the light most favorable to the non-moving party, and all reasonable inferences should be drawn in favor of the non-moving party. *Telectronics Pacing Sys., Inc. v. Ventritex, Inc.*, 982 F.2d 1520, 1522, 25 USPQ2d 1196, 1197-98 (Fed.Cir.1992). In reviewing the trial court's decision, we are required to independently determine whether the standards for summary judgment have been met. *C.R. Bard, Inc. v. Advanced Cardiovascular Sys., Inc.*, 911 F.2d 670, 673, 15 USPQ2d 1540, 1543 (Fed.Cir.1990).

A. Collateral Estoppel/Issue Preclusion

In its ruling, the Texas court relied on the Indiana court's claim interpretation as "res judicata:"

> Despite the disparity in the devices and two of the Claims at issue, the Indiana Court's findings in relation to the prosecution history of the Patent, and the elements essential to certain Claims in the Patent are res judicata . . .

Id. at 2.

Wells contends that, by disputing the interpretation of the term "inner edges" and the prosecution history estoppel analysis, Pfaff is repeating arguments that were rejected previously in the Indiana case. According to Wells, Pfaff may not do this because the claim interpretation and prosecution history estoppel rulings in the Indiana case represent law of the case or res judicata. Wells alleges that the six devices at issue here are similar to the prior two devices at issue in the Indiana case, because they lack spreaders which contact inner edges defining the cavity, and thus do not infringe the '377 patent.

Pfaff argues that the prior Indiana litigation does not preclude an assertion of infringement here, because the six devices at issue now are significantly different from the two devices adjudged noninfringing in the Indiana case. The six devices contain a feature lacking in the prior two devices – a spreader coacting with inner edges that define the cavity. Thus, says Pfaff, the six devices infringe under the claim interpretation used by the Indiana court.

In describing the issue as "res judicata" or "law of the case," the district court and Wells have misused these

terms. Res judicata, or *claim* preclusion, deals with the effect of a prior judgment on the identical claim or cause of action between the same parties. Collateral estoppel, or *issue* preclusion, deals with the relitigation of issues previously decided, when such issues arise in a subsequent litigation on a claim not barred by res judicata. 1B James W. Moore et al., Moore's Federal Practice ¶ 0.401 (2d ed. 1992).

We have said previously that "judicial statements regarding the scope of patent claims are hypothetical insofar as they purport to resolve the question of whether prior art or products not before the court would, respectively, anticipate or infringe the patent claims." *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 704, 218 USPQ 965, 968 (Fed.Cir.1983). "A device not previously before the court, and shown to differ from those structures previously litigated, requires determination on its own facts." *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1324, 5 USPQ2d 1255, 1258 (Fed.Cir.1987). *Young Engineers, Inc. v. United States Int'l Trade Comm'n*, 721 F.2d 1305, 1316, 219 USPQ 1142, 1152 (Fed.Cir.1983) ("With respect to patent litigation, we are unpersuaded that an 'infringement claim,' for purposes of claim preclusion, embraces more than the specific devices before the court in the first suit."). However, "where a determination of the scope of patent claims was made in a prior case, and the determination was essential to the judgment there on the issue of infringement, there is collateral estoppel in a later case on the scope of such claims." *Molinaro v. Fannon/Courier Corp.*, 745 F.2d 651, 655, 223 USPQ 706, 708 (Fed.Cir.1984).

Here, the district court and both parties agree that the claim interpretation of the Indiana case – that "the claim requires the coaction of the spreader means with the pin ends' inner edges which define the cavity" – controls in this case. They are correct. The prior claim interpretation has issue preclusive effect in the present case insofar as it was necessary to the judgment of non-infringement in the previous case. The dispute is whether the six devices charged with infringement here contain a spreader which coacts with inner edges defining the cavity. The answer to this question, and whether the question is a material factual dispute, is addressed in the next section.

B. Summary Judgment

1.

The sole ground for summary judgment, and thus the only issue on appeal, was that the spreader of each device does not press against an inner edge of the pins that defines the cavity. Pfaff argues that summary judgment was improper because (1) the district court erroneously defined the phrase "inner edge" in the claims to mean the physically innermost edge which contacts the chip, and (2) the court resolved a disputed material factual issue by finding that the spreaders of the Wells devices coact with the outer edge, not the inner edge, of the pins.

Pfaff contends that because the "inner edges" of the pins are defined by the cavity, "inner edge" should be interpreted to mean any inwardly facing surface of the pin which borders the cavity. According to Pfaff, the cavity is not limited to the immediate area where the chip

nests, but extends vertically along the entire length of the pins between the base support and the lid. The cavity is determined in part by the contact point where the spreader engages the pins. Pfaff asserts that the specification supports his interpretation; in Figs. 4-5 of the '377 patent, inclined edge 50 is an "inner edge" even though it does not contact the chip and in fact is laterally removed from the point 51a which does contact the chip. Thus, says Pfaff, an "inner edge" can include a point which never contacts the chip, as long as this point borders the cavity.

Wells asserts that the Indiana court and this court defined "cavity" as the immediate area in which the chip nests, and argues that Pfaff erroneously stretches the definition of "cavity" to include the entire area between the lid and the base. Wells states that its interpretation is supported by the requirement in claim 1 that the cavity substantially conform to at least two opposite lateral dimensions of the chip. Thus, says Wells, the "cavity" is the size of the chip and no larger.

Pfaff replies that prior litigation did not restrict the interpretation of "cavity" to the immediate nesting locale of the chip. In the Indiana case, the two accused devices each contained a spreader which contacted an arm extending laterally from the pin; these arms were clearly exterior to the central cavity. Pfaff also points out that the limitation in claim 1 that the cavity "substantially conform" to the size of the chip does not restrict the cavity to the exact area of the chip, and certainly says nothing about the vertical dimensions of the cavity.

We agree with Pfaff; nowhere did the Indiana court or this court construe "cavity" as the immediate nesting locale of the chip. In effect, Wells attempts to rewrite the prior claim interpretation – "inner edges which define the cavity" – to state "inner edges which contact the immediate nesting locale of the chip." Not only is Wells' proposed interpretation novel, but it also is inconsistent with the definition of "cavity" in the specification as the "central cavity defined by the blades 20b." *See SRI Int'l v. Matsushita Electric Corp. of Am.*, 775 F.2d 1107, 1117 n. 11, 1118, 227 USPQ 577, 582 n. 11, 583 (Fed.Cir.1985) (in banc) (claims are construed in light of the specification). In Figs. 2-3 and 4-5, we see that the area between blades 20b includes much more than the immediate area where the chip nests. The inner surface of each blade 20b extends vertically from the base to the spreader and includes a portion of the surface which appears laterally removed from the point which contacts the chip.

As we said above, neither party disputes that the proper claim interpretation requires a spreader which coacts with inner edges of the pins that define the cavity. The dispute is whether the accused devices meet this claim limitation, i.e. whether the accused spreaders coact with a point on the pins which is an 'inner edge' that defines the cavity or an 'outer edge' that does not define the cavity. The district court made a factual finding that the accused spreaders coact with a point that is not an inner edge defining the cavity.

We do not think that the district court could make such a factual finding based on the rough drawings, which were the only evidence before the district court

pertaining to the six devices.[3] In any case, by making such a factual finding the court improperly resolved a disputed material factual issue. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249, 106 S.Ct. 2505, 2510, 91 L.Ed.2d 202 (1986) ("at the summary judgment stage the judge's function is not himself to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial"); *Lemelson v. TRW, Inc.*, 760 F.2d 1254, 1260, 225 USPQ 697, 701 (Fed.Cir.1985) (fact-finding is an inappropriate exercise on summary judgment; "[i]f a dispute requiring a finding exists as to any material fact, summary judgment is improper.")

We note that, although Wells contended before the trial court that its devices differ from Pfaff's claims in other ways, those issues are not before us because the court explicitly refused to address Wells' other defenses. *See Cicena Ltd. v. Columbia Telecommunications Group*, 900 F.2d 1546, 1552, 14 USPQ2d 1401, 1407 (Fed.Cir.1990) (issues not decided by trial court are not before us on appeal); *Beloit Corp. v. Valmet OY*, 742 F.2d 1421, 1423-24, 223 USPQ 193, 195 (Fed.Cir.1984) (same). The sole basis for summary judgment was the district court's determination that the accused spreaders do not coact with the inner edges defining the cavity.

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[3] Defendant's exhibits D-1 and D-2 show devices in which the spreader appears to contact inner edges that define the cavity. Exhibits D-3 through D-6 are ambiguous on this point, but the evidence must be viewed in the light most favorable to Pfaff, the non-moving party, and reasonable inferences should be drawn in his favor. *See* C.R. Bard, 911 F.2d at 672, 15 USPQ2d at 1542.

2.

Pfaff also argues that prosecution history estoppel does not preclude him from relying on the doctrine of equivalents; specifically, nothing in the prosecution history prevents Pfaff from asserting that "inner edge" is any surface of the pin that faces the cavity between the base and the spreader. Pfaff asserts that his amendments of claim 1 to distinguish Pauza and Anhalt were not meant to distinguish devices such as Wells', which are very different from the devices disclosed in Pauza and Anhalt. Wells responds with the argument that the prosecution history estoppel issue was decided previously and is "law of the case."

In light of our discussion above, which vacates the summary judgment of noninfringement on the grounds of literal infringement, we need not address this issue in depth. Wells is correct that, in affirming the Indiana court, we agreed that the phrase "coacting with said opposed inner edges of said pins" was a limitation added to claim 1 to distinguish prior art. In that case, we stated that Wells' spreaders, which coacted with arms extending laterally from the pins, could not be construed as equivalents because they contacted 'outer edges' of the pins. However, in this case there remains a material factual dispute as to whether the accused spreaders coact with an 'inner edge' that defines the cavity or an 'outer edge' that does not. The existence of this question, which renders summary judgment on the literal infringement issue improper, likewise renders summary judgment improper on whether the accused spreaders infringe under the doctrine of equivalents.

C. Other Matters

Wells also asserts that Pfaff's appeal was frivolous because it attempted to relitigate issues already adjudicated, and Wells seeks damages and costs under Fed.R.App.P. 38. In view of our decision above, we do not find Pfaff's appeal to be frivolous.

CONCLUSION

We reverse the district court's summary judgment because it improperly resolved a genuine issue of material fact, and we remand for further proceedings.

Costs

Each party is to bear its own costs.

REVERSED AND REMANDED.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

96-1150, -1187

WAYNE K. PFAFF,

Plaintiff/Cross-Appellant,

v.

WELLS ELECTRONICS, INC.,

Defendant-Appellant.

ORDER

United States Court of Appeals
for the Federal Circuit

ORDER

(Filed Oct. 3, 1997)

Before ARCHER, Chief Judge, PLAGER, Circuit Judge, and SCHALL, Circuit Judge.

A petition for rehearing having been filed by the CROSS-APPELLANT,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, DENIED.

The mandate of the court will issue on October 10, 1997.

FOR THE COURT,
JAN HORBALY, CLERK

Dated: October 3, 1997

by /s/ Alex Van Veen
Alex Van Veen
Staff Law Clerk

cc: JAMES D. HALL
BARRY L. GROSSMAN

PFAFF V WELLS ELECTRONICS 6-1150, -1187
(DCT-91-CV-1542)

Note: Pursuant to Fed. Cir. R. 47.6, this order is not citable as precedent. It is a public record.

United States Patent [19]
Pfaff

[11] Patent Number: 4,491,377
[45] Date of Patent: Jan. 1, 1985

[54] MOUNTING HOUSING FOR LEADLESS CHIP CARRIER

[76] Inventor: Wayne K. Pfaff, 1316 Savannah, Irving, Tex. 75062

[21] Appl. No.: 369,347

[22] Filed: Apr. 19, 1982

[51] Int. Cl.³ H01R 13/62

[52] U.S. Cl. ..... 339/74 R; 339/17 CF; 339/75 M

[58] Field of Search .... 339/17 CF, 74 R, 75 M, 339/75 MP, 258 P

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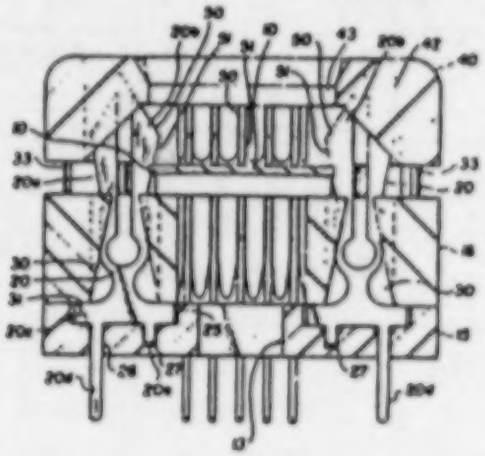
y Examiner – Z. R. Bilinsky

Attorney, Agent, or Firm – Kanz, Scherback & Timmons

[57] **ABSTRACT**

Disclosed is a mounting housing for leadless chip carriers for use on burn-in boards, circuit boards and the like. The housing includes an insulating base support containing a plurality of electrically conductive axially elongated bodies extending therethrough arranged to define a rectangular cavity in a plane parallel with the first major face of the base support. The ends of the axially elongated bodies defining the cavity have edges inclined inwardly toward the cavity and edges inclined outwardly from the cavity. A spreader mounted for reciprocal movement axially with respect the elongated bodies has an inclined surface mating with the outwardly inclined edges of the elongated bodies so that movement of the spreader moves the inwardly inclined edges outwardly to permit insertion of a leadless chip carrier within the cavity.

22 Claims, 5 Drawing Figures



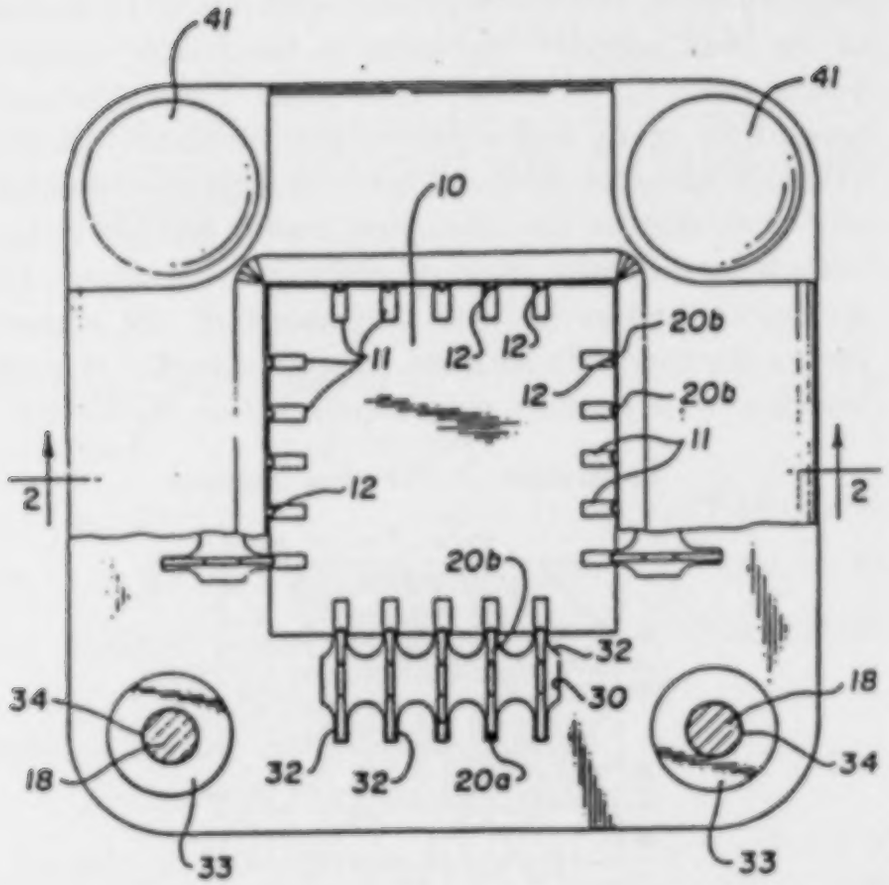


Fig. 1

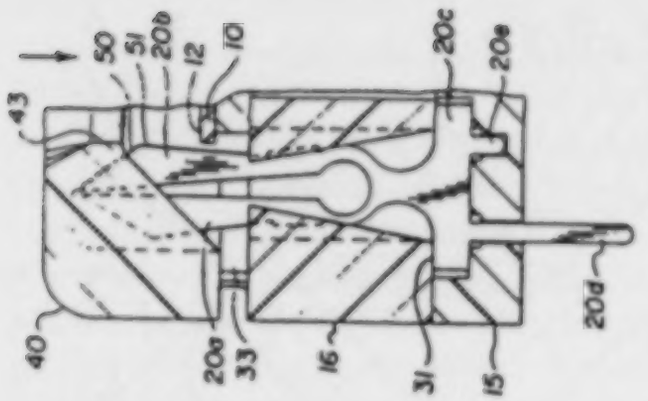


Fig. 3

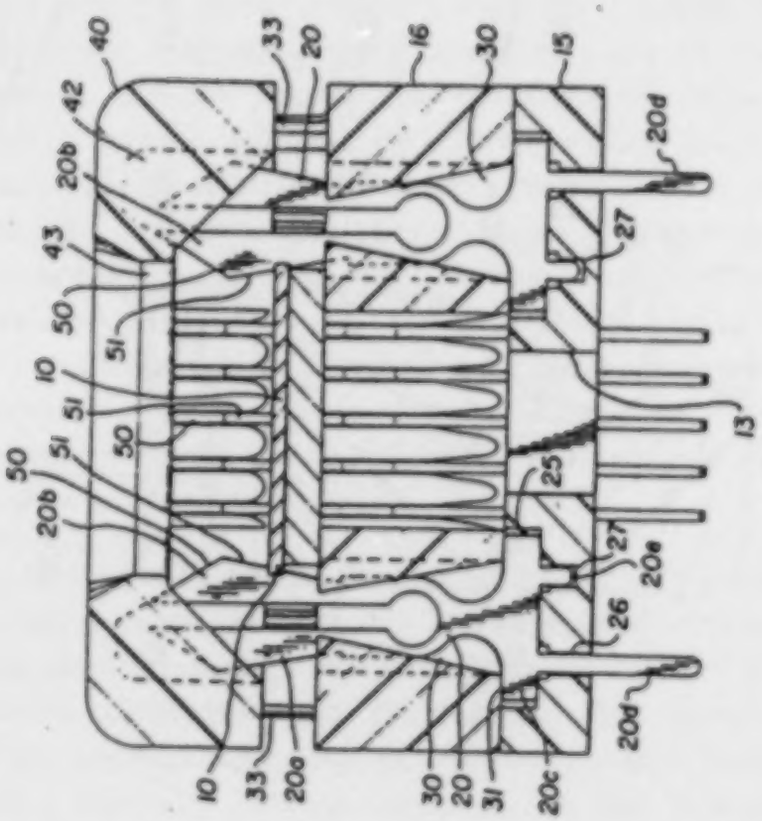


Fig. 2

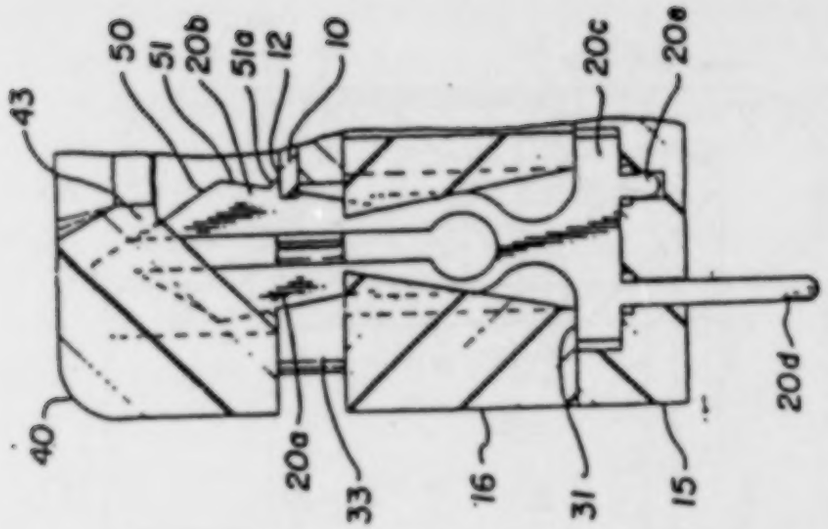


Fig. 5

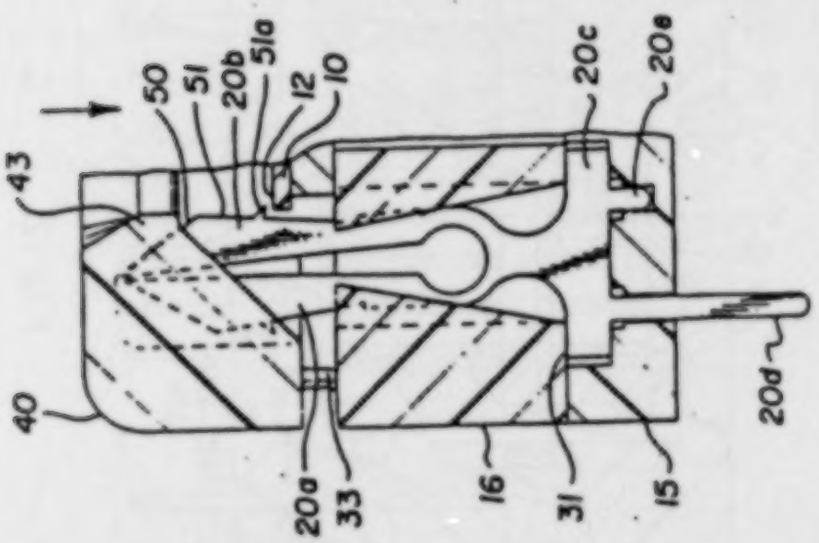


Fig. 4

MOUNTING HOUSING FOR LEADLESS CHIP CARRIER

As large scale integration (LSI) techniques are applied to integrated circuit and hybrid circuit development, the density of circuit functions which may be performed by a single circuit chip becomes limited, not by the electronic functions which can be performed by the Circuit chip, but by the packaging used to house the chip and the leads required for interconnecting the chip with other circuitry. Integrated circuits are conventionally housed in flat packs or dual in-line package (DIP) structures wherein interconnection leads are arranged in parallel rows extending from opposite sides of the chip housing. However, as the chip functions are expanded to require greater numbers of interconnection leads, standard DIP configurations pose serious limitations. For example, a sixty-eight pin array in conventional DIP packaging would require a DIP over three inches long. Because of impedence of the long leads required, such arrangements are unsuitable for high speed devices. Furthermore, such packages would consume an inordinate amount of circuit board area and pose problems in maintenance or replacement.

In response to the need for high density packaging for LSI devices, the industry has developed standard LSI chip carrier housings known in the art as leadless chip carriers. Conventionally, the leadless chip carrier comprises a substantially flat rectangular ceramic base piece with a centrally located cavity in one face thereof. The chip is mounted on the floor of the cavity and the cavity enclosed and hermetically sealed with a ceramic cover. Terminal lands are arranged on one or both sides of the

base piece adjacent each of the four edges of the base piece and electrical communication between the terminal lands and the enclosure housing the chip is provided by gold-plated leads or the like extending from the terminal lands to the cavity. The terminal lands may be on the front side (the major face of the base piece which carries the enclosure cover) or the back side (the side of the base piece opposite the enclosure cover) or both, depending on the design of the leadless chip carrier. Furthermore, the location and arrangement of the terminal lands may vary depending on the size of the carrier and the number of terminal lands.

Conventionally, leadless chip carriers as described above are mounted in mounting means for electrical interconnection with a circuit board or the like. Since the terminal lands must contact means for forming electrical communication between the circuit elements on the printed circuit board and the terminal lands, means must be provided in the mounting housing to accurately position and align the terminal lands with respect to such contact means.

While various leadless chip carrier sizes and configurations as generally described above have been adopted as industry standards for various pin connection arrangements, the means used for interconnecting such leadless chip carriers with circuit boards or the like and thus provide electrical communication between the terminal lands of the leadless chip carrier and the circuit board varies with the particular circuit application, the functions to be performed by the particular chip and other considerations. Thus no standard means has been

adopted for mounting leadless chip carriers on circuit boards or the like.

Obviously, various designs of leadless chip carrier interconnection means have been devised, each with its own unique characteristics and designed to satisfy certain requirements. Ordinarily, however, all prior mounting housings rely on registration of the mounting housing and leadless chip carrier by reference to an edge of the ceramic base piece to align the contact means of the mounting housing with the terminal lands on the leadless chip carrier. Since the position of the contact means with respect to the mounting housing is fixed, the position of the lands with respect to the edge of the base piece must be precisely fixed to insure that the contact means are in proper registry with the lands. Furthermore, the contact means are usually arranged to extend in a direction transverse to the plane of the lands, thus project upwardly and/or downwardly from the mounting housing and/or the mounting housing cover, thus contacting the lands on the broad surfaces thereof.

Unfortunately, the ceramic base piece of many leadless chip carries is not machined to provide precision edges. Instead, the base piece is formed from a larger sheet of ceramic material by forming a plurality of precisely aligned holes in the sheet and/or scribing the sheet on one or both faces and breaking the sheet along the scribe line or aligned series of holes. Obviously, the break line which forms the edges of the base piece may or may not be precisely aligned with the holes or scribe line. However, the terminal lands are formed on the base piece at precise locations with reference to the holes or scribe line, not the actual edge of the body. Thus, where the

actual edge of the body does not precisely coincide with the scribe line or line defined by the centers of the holes, and where the contact means carried by the mounting housing is aligned to contact the terminal lands by reference to the actual ledge of the base piece, misalignment between the contact means and the terminal lands often occurs. This results in failure to form proper electrical contact between the contact means and the terminal lands.

In accordance with the present invention, a mounting housing is provided in which the contact means are aligned with the terminal lands by reference to the holes used to define the desired edge of the ceramic base piece. Since the contact means references the only precision formed reference point on the base piece, the contact means is always precisely located on the terminal land. Furthermore, where the land is formed with reference to the holes, the land material usually extends into the hole. The contact means of the housing of the invention extend substantially vertically (with respect to the horizontal plane of the base piece), thus the contact means may actually engage the land in the semi-cylindrical portion of the hole formed to define the edge of the base piece. Thus precise registration between the land and the contact means is achieved using the only precision reference point on the base piece.

The invention further provides means for rapid mounting and de-mounting of leadless chip carriers by aligning the contact means substantially vertically (with respect to the horizontal plane of the base piece) and surrounding all edges of the base piece. The contact means are resilient metal pins with outwardly sloping

camming surfaces which mate with a spreader to uniformly and simultaneously spread the contact pins and to permit insertion and removal of the leadless chip carrier from the housing. Thus the housing of the invention provides a compact and simplified means for rapidly mounting and de-mounting leadless chip carriers for burn-in, testing and for circuit applications use. Furthermore, the contact pins are automatically correctly precision positioned to mate with the terminal lands.

Other features and advantages of the invention will became more readily understood from the following detailed description taken in connection with the appended claims and attached drawings in which:

FIG. 1 is a top plan view of a twenty pin version of the preferred embodiment of the invention;

FIG. 2 is a sectional view of the apparatus of FIG. 1 taken through section lines 2–2;

FIG. 3 is a sectional view of a portion of the apparatus of FIG. 1 taken through section lines 2–2 illustrating the action of the spreader to open the contact means; and

FIGS. 4 and 5 are sectional views of the same portion of the apparatus as shown in FIG. 3 illustrating an alternative embodiment of the contact means.

In FIG. 1, a typical twenty pin leadless chip carrier 10 is shown having five terminal lands 11 on the top surface of each edge thereof. Since the arrangement of the semiconductor chip within the cavity of the carrier and the interconnection of the chip with the lands 11 form no part of the invention, these details of the leadless chip carrier are not illustrated. However, the base portion of the

leadless chip carrier in the embodiment shown is characteristic of ceramic base pieces formed by breaking the ceramic along a line of small holes. Therefore, the edge of the base piece has semicylindrical depressions 12 vertically traversing each lateral edge thereof. The lands 11 positioned on one or both faces of the leadless chip carrier 10 are indexed to the depressions 12 and usually extend into the depressions 12.

The structure of the mounting housing is most clearly illustrated in FIG. 2. In the preferred embodiment, the housing comprises a base support 15; an intermediate support housing 16 which cooperates with the base support 15 to hold and position contact pins 20; and a spreader 40. The assembly is secured together by a plurality of studs 18 (shown in FIG. 1). The studs 18 secure the base support 15 and intermediate support housing 16 rigidly together and extend through spreader 40 permitting spreader 40 to move with respect to the remainder of the assembly as explained hereinafter.

In the preferred embodiment, the contact pins 20 are substantially flat axially elongated resilient electrically conductive bodies such as stainless steel coated with a suitable electrically conductive coating or beryllium copper alloys or the like formed with a pair of parallel arms or blades 20*a* and 20*b* extending from a common base 20*c*. Each pin 20 has one pin shank 20*d* and one index stud 20*e* extending from the base 20*c* in the direction opposite the blades 20*a* and 20*b*. The contact pin 20 is symmetrical about its longitudinal (vertical as shown in the drawings) axis except that the shank 20*d* is substantially longer than the index stud 20*e*.

The base 20*c* fits within a recess 25 in base support 15 with shank 20*d* extending through aperture 26 and index stud 20*e* fitted within indexing recess 27. Thus shank 20*d* extends vertically through the base support 15 to provide electrical connection with a substrate such as a circuit board or burn-in board or other socket or support means. It will be observed that aperture 26 and indexing recess 27 may be arranged in alternately reversed positions so that a plurality of shanks 20*d* project from the bottom surface of the base support 15 in parallel rows with the positions of the shanks 20*d* in each row staggered with respect to the shanks in the other row. Alternatively, aperture 26 and recess 27 may be identical apertures. Thus shanks 20*d* may be alternately reversed or all arranged in the same row.

The depth of recess 25 in the base support 15 is substantially equal to the vertical height of the base 20*c* of the pin member 20 so that the intermediate support housing 16, when mated with base support housing 15, locks the base 20*c* within the recess 25. The intermediate support housing 16 has outer lateral dimensions substantially conforming to the outer lateral dimensions of the base support 15 and has vertical channels 30 extending there through which align with the recesses 25. However, channels 30 are not as wide as the recesses 25, thus the shoulders 31 of the intermediate support 16 extend over the base 20*c* and secure the contact pin body within the housing. The internal surfaces of the channels 30 are provided with parallel slots 32 (most clearly shown in FIB. 1) aligned with the recesses 25 and apertures 26 to receive the blades 20*a* and 20*b* of the pin, thus supporting the pins 20 vertically and parallel with each other. It will

thus be observed that with intermediate support housing 16 mated with base support 15, the pins 20 are secured vertically and parallel to each other in groups aligned in four rows defining a central rectangular area on the top surface of the intermediate support member 16.

In the preferred embodiment, the base support 15 and the intermediate housing support 16 have aligned apertures 34 extending vertically therethrough at each corner. The intermediate support 16 also has a post 33 on the top surface thereof surrounding each aperture 34., The base support 15 and intermediate support housing 16 are held firmly together by studs 18 passing through the apertures 34.

A spreader cap 40 having outer lateral dimensions substantially conforming to the outer lateral dimensions of the base support 15 and intermediate support housing 16 is mounted for vertical reciprocal movement on the posts 33. Preferrably, the spreader cap 40 has apertures in the corners thereof in registry with the posts 33 and thus rides on the posts. The studs 18 have enlarged ends 41 for retaining the spreader cap on the assembly. The spreader cap 40 has a central rectangular cavity 42 which is larger than the rectangular area defined by the top ends of the pins 20. However, the top surface of the spreader cap 40 has an inwardly and downwardly projecting lip 43.

As most clearly illustrated in FIGS. 2 and 3, the pin 20 is forked at about its mid-section to form blades 20*a* and 20*b* which project above the surface of the intermediate support housing 16. The outer edge of each blade 20*a* and 20*b* also diverges outwardly from the vertical axis of the pin 20 to a point near the top free end thereof and

then diverges inwardly. The inwardly and downwardly projecting lip 43 is adapted to mate with and rest on the inwardly diverging edge 50 of each pin 20. It will thus be observed that as the spreader cap 40 is moved downwardly (as illustrated by the arrow in FIG. 3) the lip 43 acts as a camming surface against the edges 50 of the pins, thus bending the blades 20*b* toward the central axes of the pins 20 and outwardly with respect to the central cavity defined by the blades 20*b*. As the spreader cap 40 is uniformly pressed toward the support 16, all the inner blades 20*b* of the pins 20 are urged outwardly from the central cavity, thus aligning the otherwise inwardly inclined edges 51 substantially vertically. Since the central opening in the spreader cap 40 is slightly larger than the leadless chip carrier 10, and since the pins 20 are spread outwardly by the spreader cap 40, a leadless chip carrier may be inserted through the spreader cap 40 into the central cavity to rest on the top surface of the intermediate support 16. When downward pressure on the spreader cap 40 is released, the inner blades 20*b* return to their relaxed position (see FIG. 2) and engage the edges of the leadless chip carrier.

Where the terminal lands 11 are aligned with and extend into the semicylindrical depressions 12 on the edges of the leadless chip carrier base piece (as illustrated in FIG. 1), and where the pins 20 are spaced to likewise mate with the depressions 12, the inclined edges 51 of he blades 20*b* are urged into the depressions 12 to form physical and electrical contact with the lands 12. Furthermore, since the edges 51 are inclined inwardly from the vertical, the blades 20*b* securely lock the leadless chip carrier within the mounting housing.

The above described embodiment is particularly suitable for use in connection with leadless chip carriers wherein the ceramic base piece is formed by drilling holes therein and breaking the ceramic wafer along the line of holes. In such cases, the lands 11 are usually formed in registry with the semicylindrical depressions 12 formed by the breaking hole and thus the blades 20*b* are automatically aligned with the lands 11 and engage the lands within the semicylindrical depressions 12. Note that in this arrangement the contact means (the blades 20*b*) are indexed with the lands by reference to the semicylindrical depressions 12 which are the only precision-located points on the ceramic base piece. Since the electrical contact means 20*b* are not indexed with reference to any other portion of the ceramic base piece, precision and accurate indexing is always achieved.

Some leadless chip carriers are not formed by drilling holes in the ceramic base piece. Therefore, semicylindrical depressions 12 are not present and can not be used to index the lands 12. In such cases, the lands 12 may be formed only on one surface, on both surfaces, or actually wrapped around the lateral edges of the base piece. However, if the lands are wrapped around the edges, the above embodiment performs equally well since electrical contact is made between the portion of the land wrapped around the edge of the ceramic base and blade 20*b*. If, however, the ceramic base piece of the leadless chip carrier has no semicylindrical depression 12 to act as an indexing means and the land 11 does not extend around the edge of the ceramic base piece, the blades 20*b* may be modified as illustrated in FIGS. 4 and 5.

In the embodiment of FIGS. 4 and 5 the outwardly divergent edge 51 of blade 20*b* is modified to include an outwardly and downwardly extending barb 51*a*. Thus, when the spreader cap 40 is depressed, the blades 20*b* are withdrawn laterally to permit the leadless chip carrier to be positioned within the cavity. However, when the spreader cap 40 is released, the blades 20*b* move inwardly urging barbs 51*a* inwardly and downwardly into contact with the top surface of the lands 11. Since the barbs 51*a* move both laterally and downwardly when the blades 20*b* are released, the barbs 51*a* scrape the surface of the lands 11 to remove any oxidation thereform and thus form good electrical contact with the lands 11 while also acting to retain the leadless chip carrier within the cavity.

It should be noted that the structure of the embodiment described is extremely simple and may be readily fabricated from available materials. For example, the housing may be made from three pieces of insulating material such as molded or machined plastic or the like. The pins 20 are symmetrical about their longitudinal axes (except for the lengths of shanks 20*d* and studs 20*e*), thus may be all identical and simply alternately reversed during assembly to provide parallel rows of pins. Furthermore, a centrally located aperture 13 may be provided in the base support 15 to permit cooling of the leadless chip carrier by convection or by a heat sink attached to the leadless chip carrier and projecting into the cavity. Likewise, since the top of the housing is open, a heat sink may be attached to the top side of the leadless chip carrier 10 and project through the central opening in the spreader cap 40.

It will be noted that no special tools are required to insert the leadless chip carrier into the housing of the invention. The leadless chip carrier is simply inserted within the opening in the central portion of the spreader cap 40 and the spreader 40 pressed toward the intermediate support 16. As the blades 20*b* retract laterally, the leadless chip carrier 10 simply drops into position on the top surface of the intermediate support housing. When the spreader cap 40 is released, the blades 20*b* automatically align with and form electrical contact with the lands 11.

Removal of the leadless chip carrier 10 from the housing is accomplished with similar ease. By pressing the spreader cap 40 toward the intermediate support housing 16, the blades 20*b* are retracted and the leadless chip carrier may be withdrawn from the housing by simply inverting the structure; by inserting a plunger or other suitable instrument through the aperture 13; or by other suitable simple and convenient means.

It should be noted that the housing of the invention is extremely compact and has no moving closure led or the like. Thus the housing may be inexpensively manufactured and occupies minimum space on a mounting substrate. Furthermore, the housing can be designed to accommodate leadless chip carriers of various configurations without modification of the basic design of the housing.

Because of the simplicity of design and the ease with which leadless chip carriers may be inserted into and withdrawn from the housing of the invention, the housing has particular applicability and suitability for use in

connection with burn-in boards wherein large numbers of leadless chip carriers are mounted in housings on a burn-in board and tested and stressed under adverse conditions. The housing is likewise applicable for use as a housing or mounting socket for end use circuit applications. Accordingly, while the invention has been described with particular reference to specific embodiments thereof, it is to be understood that the forms of the invention shown and described in detail are to be taken as preferred embodiments of same, and that various changes and modifications may be resorted to without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. Mounting means for a leadless chip carrier comprising:

(a) base support means having first and second oppositely disposed major faces;

(b) a plurality of axially elongated conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces, the opposed inner edges of the ends of said pins extending from said first major face arranged to define a cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier in a plane parallel with said first major face and the inner edges of said pins converging slightly inwardly with distance from said first major face; and

(c)unitary means operable independently of said leadless chip carrier reciprocally movable axially with respect to said pins and coacting with said opposed inner edges of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween.

2. Mounting means as defined in claim 1 wherein each of said conductive pins comprises a substantially flat elongated conductive body with a centrally located base portion, a shank and an index stud extending parallel in a first direction from said base portion and a pair of blades extending parallel in the opposite direction from said base portion, said conductive pin body being substantially symmetrical about its central axis except for the relative lengths of said index stud and said shank.

3. Mounting means as defined in claim 2 wherein said base support means includes a plurality of recesses adapted to mate with and receive said base portions of said pins to support said pins with their axes parallel and normal to said first and second major faces.

4. Mounting means as defined in claim 2 wherein said base support means comprises a first base support means including recesses for receiving said base portions of said pins and an intermediate support housing mating with the first major face of said first base support means and having a plurality of channels passing therethrough, said channels each having slots in the walls thereof for receiving the outer edges of said blades.

5. Mounting means as defined in claim 4 including stud means passing through said first base portion, said

intermediate support housing and said means for spreading the ends of said pins, said stud means rigidly securing said first base portion and said intermediate support housing together with said pins extending normal to said first and second major faces while permitting said means for spreading the ends of said pins to reciprocally move axially with respect to said stud means.

6. Mounting means as defined in claim 1 wherein said means for for [sic] spreading the ends of said pins comprises a rectangular body adapted for reciprocal movement parallel with the axes of said pins and having a central cavity therein greater in lateral dimensions than the lateral area defined by said pins and including camming means for mating with the ends of said pins to urge the free ends of said pins outwardly with respect to said cavity as the spreading means is moved axially with respect to said pins.

7. Mounting means for a leadless chip carrier comprising:

(a) a support housing having first and second oppositely disposed major faces;

(b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, the free ends of said contact means extending from said first major face arranged with their inner edges defining a cavity rectangular in dimensions in a plane substantially parallel with said first major face, the ends of said contact means defining said cavity having edges which incline inwardly

toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face; and

(c) unitary spreader means comprising a substantially rectangular body arranged substantially parallel with said first major face and reciprocally movable axially with respect to said contact means, said spreader means having a surface inclined with respect to the axes of said contact means and mating with said inclined inner edges of said contact means whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity.

8. Mounting means as defined in claim 7 including a plurality of stud means extending from said first major face of said support housing parallel with said contact means.

9. Mounting means as defined in claim 8 wherein said spreader means is mounted for reciprocal movement on said stud means.

10. Mounting means as defined in claim 7 including a centrally located aperture in said support housing.

11. Mounting means as defined in claim 7 wherein the inwardly inclined edges of said contact means include an inwardly projecting barb.

12. Mounting means as defined in claim 7 wherein said axially elongated contact means comprises a plurality of substantially flat axially elongated electrically conductive bodies, each having a substantially centrally located base portion confined within said support housing and having a shank portion extending therefrom in a first direction through said second major face of said support housing and a pair of parallel blades extending in the opposite direction therefrom on opposite sides of the central axis of said contact means.

13. Mounting means as defined in claim 12 wherein said support housing includes a plurality of apertures in said second major face thereof arranged in parallel rows for receiving said shank portions.

14. Mounting means as defined in claim 13 wherein said contact ıneans are arranged in said support housing in alternately reversed positions so that said shank portions project through said apertures in parallel rows with location of the shank portions alternately staggered in each row.

15. Mounting means for a leadless chip carrier comprising:

(a) base support means having first and second oppositely disposed major faces;

(b) a plurality of conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces, the ends of said pins extending from said first major face arranged to define a cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of

said leadless chip carrier in a plane parallel with said first major face and the inner edges of said pins converging slightly inwardly with distance from said first major face, each of said conductive pins comprising a substantially flat elongated conductive body with a centrally located base portion, a shank and an index stud extending parallel in a first direction from said base portion and a pair of blades extending parallel in the opposite direction from said base portion, said conductive pin body being substantially symmetrical about its central axis except for the relative lengths of said index stud and said shank; and

(c) means operable independently of said leadless chip carrier and coacting with said inner edges of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween.

16. Mounting means as defined in claim 15 wherein said base support means includes a plurality of recesses adapted to mate with and receive said base portions of said pins to support said pins with their axes parallel and normal to said first and second major faces.

17. Mounting means as defined in claim 15 wherein said base support means comprises a first base support means including recesses for receiving said base portions of said pins and an intermediate support housing mating with the first major face of said first base support means and having a plurality of channels passing therethrough,

said channels each having slots in the walls thereof for receiving the outer edges of said blades.

18. Mounting means as defined in claim 17 including stud means passing through said first base portion, said intermediate support housing and said means for spreading the ends of said pins, said stud means rigidly securing said first base portion and said intermediate support housing together with said pins extending normal to said first and second major faces while permitting said means for spreading the ends of said pins to reciprocally move axially with respect to said stud means.

19. Mounting means for a leadless chip carrier comprising:

(a) a support housing having first and second oppositely disposed major faces;

(b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, the free ends of said contact means extending from said first major face arranged to define a cavity rectangular in dimensions in a plane substantially parallel with said first major face, the ends of said contact means defining said cavity having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face;

(c) spreader means comprising a substantially rectangular body arranged substantially

parallel with said first major face and reciprocally movable axially with respect to said contact means, said spreader means having a surface inclined with respect to the axes of said contact means and mating with the inclined inner edges of said contact means whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity; and

(d) barb means projecting inwardly from the inwardly inclined edges of said contact means.

20. Mounting means for a leadless chip carrier comprising:

(a) a support housing having first and second oppositely disposed major faces;

(b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, the free ends of said contact means extending from said first major face arranged to define a cavity rectangular in dimensions in a plane substantially parallel with said first major face, the ends of said contact means defining said cavity having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face, said axially elongated contact means comprising substantially flat axially elongated electrically

conductive bodies, each having a substantially centrally located base portion confined within said support housing and having a shank portion extending therefrom in a first direction through said second major face of said support housing and a pair of parallel blades extending in the opposite direction therefrom on opposite sides of the central axis of said contact means; and

(c) spreader means comprising a substantially rectangular body arranged substantially parallel with said first major face and reciprocally movable axially with respect to said contact means, said spreader means having a surface inclined with respect to the axes of said contact means and mating with the inclined inner edges of said contact means whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity.

21. Mounting means as defined in claim 20 wherein said support housing includes a plurality of apertures in said second major face thereof arranged in parallel rows for receiving said shank portions.

22. Mounting means as defined in claim 21 wherein said contact means are arranged in said support housing in alternately reversed portions so that said shank portions project through said apertures in parallel rows with location of the shank portions alternately staggered in each row.

* * *

Distict Court, N. D. Indiana

Pfaff v. Wells Electronics Inc.

No. S86-449

Decided July 26, 1988

Action by Wayne K. Pfaff against Wells Electronics Inc., for patent infringement, in which defendant counterclaims for declaration of patent invalidity. Judgment for defendant on issue of infringement, and for plaintiff on issue of patent validity.

Jack A. Kanz, Dallas, Tex., and Timothy J. Hartzer, South Bend, Ind., for plaintiff.

James D. Hall and Thomas J. Dodd, South Bend, for defendant.

Miller, J.

This case came before the court for trial without intervention of a jury on July 18-20, 1988. This memorandum is intended to comply with the requirements of Fed.R.Civ.P. 52(a).

This is a patent infringement suit filed by Wayne K. Pfaff, a resident of Irving, Texas, against Wells Electronics, Inc., an Indiana corporation having its principal place of business in the Northern District of Indiana. Mr. Pfaff is the owner of Plastronics, Inc., which competes with Wells. The court has jurisdiction of the subject matter of this action pursuant to 28 U.S.C. §1338(a) and 35 U.S.C. §281. Venue in this court is proper pursuant to 28 U.S.C. §§1391(c), 1400(b).

Mr. Pfaff filed this action alleging that Wells was infringing Mr. Pfaff's patent. Wells filed a counterclaim contending that Mr. Pfaff's patent is invalid. For the reasons that follow, the court concludes that the Wells device does not literally infringe upon Mr. Pfaff's patent and that the doctrine of prosecution estoppel precludes Mr. Pfaff from resorting to the doctrine of equivalents to support his contention of infringement. The court further finds that Wells has not met its burden of overcoming the presumption of validity to which Mr. Pfaff's patent is entitled.

I. The Devices at Issue

A. The Pfaff Invention

Mr. Pfaff is the inventor and owner of all right, title and interest in the patent-in-suit, U.S. Patent No. 4,491,377, issued January 1, 1985. The invention of the patent-in-suit pertains generally to the art of semiconductor packing and mounting devices, or sockets, as they are known in the trade. More particularly, the patent-in-suit pertains to holding of mounting housings, or sockets, for leadless chip carriers during testing of the leaderless chip carriers.

In the state of today's semiconducter art, a multiple of electronic components or circuits can be etched in a silicon wafer, commonly referred to as an integrated circuit, which is housed within a ceramic or plastic carrier for protection. Integrated circuits conventionally are housed in dual in-line packages having interconnection leads adapted for attachment by insertion through printed circuit boards. The leads of such packages or

carriers assumed a variety of configurations, such as L-shapes and J-shapes. During recent years, in response to the need for high-density packaging for integrated circuit devices, the industry has developed a package that dispenses with the need for conventional leads in favor of terminal lands, or contact pads, around the periphery of a square or rectangular ceramic or plastic housing known in the art as leadless chip carrier.[1]

The invention of the patent-in-suit addressed the problem of providing a housing or socket for mounting and testing leaderless chip carriers.

Mr. Pfaff's socket contains a lid atop a device containing several conductive pins that define a rectangular shape the size of a leaderless chip carrier. The top contains a hole of approximately the same shape and size. The socket is designed to allow "zero force insertion", meaning that no force need be exerted on the leaderless chip carrier to place it into the socket and actuate the pins. To insert the leaderless chip carrier, one depresses the socket's lid, which presses against the conductive pins, spreading them outward to increase the cavity's size. The leaderless chip carrier is placed into the cavity. When the lid is raised, the conductive pins spring back to something near their original position, contacting the leaderless chip carrier on its sides and its top near the

[1] Some leaderless chip carriers actually have small J-type leads that wrap around an edge of the carrier and are adapted for surface mounting of the carrier on a printed circuit board rather than insertion through the circuit board. More precisely, "leaderless chip carrier" is a term of art designating a surface-mountable chip carrier.

sides. The contacts between the leaderless chip carrier and the conductive pins allow the leaderless chip carrier to be activated for testing purposes while holding the leaderless chip carrier in place. Many such sockets then may be placed on a "burn-in-board" for testing.

Development of the device began in late 1980 or 1981, when Texas Instruments representatives approached Mr. Pfaff and others and described their need for a device to test leaderless chip carriers. Mr. Pfaff proceeded to conceptualize the device. By April 8, 1981, a drawing, known as P2020 (Defendant's Exhibit BHA) existed. On that date, Plastronics received a written order confirming a March 17, 1981 verbal order from Delta V for nearly 30,000 carrier sockets that would have the characteristics described by the conceptual drawings. The order was expressly conditioned upon the product functioning to the purchaser's satisfaction; such conditions are customary in Mr. Pfaff's business.

Not until several weeks after April 8, 1981 were any of the component parts of the socket produced. Nothing related to the invention existed before April 19, 1981 other than drawings and the inventor's mental impressions. The socket was not tested until after it was shipped to the purchaser in August, 1981.

B. The Patent-in-Suit

On April 19, 1982, Mr. Pfaff filed a patent application in the United States Patent Office entitled, "Mounting Housing for Leadless Chip Carrier". On October 4, 1983, the patent examiner rejected that application as being obvious in light of prior patented socket or connector

devices. On December 5, 1983, Mr. Pfaff filed a response that included an amendment to the claim of the application emphasizing "means operable independently of said leadless chip carrier and coacting with said inner edges of said pins . . . " Mr. Pfaff explained in his response, "Claim 1 has thus been amended to clearly note that the spreader means operates on the inner edges of the pins (as contrasted to the outer edges as shown in Pauza, et al.)." (Defendant's Exhibit B).

The patent examiner again rejected Mr. Pfaff's patent application on March 29, 1984 in light of prior patented socket devices. On June 22, 1984, Mr. Pfaff filed a second amendment to the claims attempting to traverse the examiner's rejection and emphasizing "axially elongated conductive pins", "opposed inner edges of the ends of said pins", and a "unitary top reciprocally movable axially with respect to said pins" and "coacting with said opposed inner edges".

The examiner granted the application on September 25, 1984; Mr. Pfaff's patent was issued January 1, 1985. Claim 1 of the patent-in-suit reads as follows:

> 1. Mounting housing for a leadless chip carrier comprising:
>
> (a) base support means having first and second oppositely disposed major faces;
>
> (b) a plurality of axially elongated conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces, the opposed inner edges of said ends of said pins extending from said first and second major faces, the opposed inner edges of said ends of said pins

> extending from said first major face arranged to define a cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leadless chip carrier in a plane parallel with said first major face and the inner edges of said pins converging slightly inwardly with distance from said first major face; and
>
> (c) unitary means operable independently of said leadless chip carrier reciprocally moveable axially with respect to said pins and coacting with said opposed inner edges of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a leadless chip carrier therebetween.

Claim 6 of the patent-in-suit reads:

> 6. Mounting means as defined in claim 1 wherein said means for for [sic] spreading the ends of said pins comprises a rectangular body adapted for reciprocal movement parallel with the axes of said pins and having a central cavity therein greater in lateral dimensions than the lateral area defined by said pins and including a camming means for mating with the ends of said pins to urge the free ends of said pins outwardly with respect to said cavity as the spreading means is moved axially with respect to said pins.

Claim 7 of the patent-in-suit reads as follows:

> 7. Mounting means for a leadless chip carrier comprising:
>
> (a) a support housing having first and second oppositely disposed major faces;

(b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces, the free ends of said contact means extending from said first major face with their inner edges defining a cavity rectangular in dimensions in a plane substantially parallel with said first major face, the ends of said contact means defining said cavity having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face; and

(c) unitary spreader means comprising a substantially rectangular body arranged substantially parallel with said first major face and reciprocally moveable axially with respect to said contact means, said spreader means having a surface inclined with respect to the axes of said contact means and mating with said inclined inner edges of said contact means whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity.

(Plaintiff's Exhibit 3).

C. The Wells Device

Meanwhile, Wells had begun researching the development of a leaderless chip carrier socket in late 1982, independently of Mr. Pfaff. Wells had long been in the business of selling sockets for testing semiconductor

devices, including its TO-5 device for housing leaded chip carriers. Wells had a line of zero-insertion-force sockets making use of moveable caps, but none for leaderless chip carriers. Upon receiving an inquiry from Delco in late 1982 concerning sockets for leaderless chips [sic] carriers, Wells designed a socket that was a less expensive direct force model rather than a zero-insertion force model. Wells' proposal to Delco was unsuccessful; Plastronics was awarded the contract.

Still, Wells did not begin emphasizing development of such a product until late 1983, when it appeared that surface mount technology had "arrived". An intense design effort began in January, 1984. By May, 1984, Wells had devised a leaderless chip carrier socket similar to Mr. Pfaff's, except that it contacted the carrier on the sides and the bottom. In May, 1984, Arthur Midili, Wells' president and chief operating officer, met Mr. Pfaff at a trade show. They showed each other their chip carrier sockets, and Mr. Pfaff told Mr. Midili that he had applied for a patent.

Unable to obtain a copy of the patent application, Wells continued with its development. Around July, 1984, Wells had settled on a design quite similar to Mr. Pfaff's device. In late 1984, as Wells was prepared to begin production, it learned that Mr. Pfaff's patent was to be issued. Wells obtained a copy of the patent through its attorney. Upon examining the claims, Wells chose to modify its design to avoid an infringement claim.

Wells modified its design by extending the lid outward and extending an arm outward from the side of a

serpentine-shaped contact, which was to be used to actuate the device's assembly.[2] Under this design, the lid of the socket would be depressed and urge the arm downward, forcing the contact away from the cavity into which the leaderless chip carrier was to be placed; the contacts would spring back when the top was raised and the pressure on the arms removed, contacting the sides of the leaderless chip carrier. Patent No. 4,623,208 ultimately was issued for this design on November 18, 1986.[3]

Wells made further modifications to its design, however, because the design did not work as well as the earlier design it had abandoned in the face of the Pfaff patent. A hump was added to the arm; the hump was rounded; the coil spring was made smaller; the contact point was made smaller and reshaped. Wells began shipping its revised socket construction to customers in 1985. On July 31, 1986, Mr. Pfaff filed this suit alleging infringement of his patent. Wells has modified its design during the pendency of this action, but neither Wells nor Mr. Pfaff have suggested that the modification is pertinent to the infringement issue.

II. Infringement

Mr. Pfaff contends that the Wells device infringes his patent literally and through the doctrine of equivalents.

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[2] A model of this design is shown as Revision D on defendant's Exhibit BPE.

[3] That Wells obtained a patent on its device does not preclude a finding of infringement. *Atlas Powder Co. v. E.I. Dupont de Nemours*, 750 F.2d 1539, 1580-1581 [224 USPQ 409, 416-417] (Fed. Cir. 1984).

Mr. Pfaff bears the burden of proving infringement by a preponderance of the evidence. *B & J Manufacturing Co. v. Hennessey Industries, Inc.*, 493 F.Supp. 1105 [206 USPQ 542] (N.D. Ill. 1979).

A. Literal Infringement

With respect to his claim of literal infringement, Mr. Pfaff must prove the existence of every element or part or its functional equivalent in the accused device. *Berkey Photo, Inc. v. Klimsch-Repro, Inc.*, 388 F.Supp. 586 [185 USPQ 306] (S.D.N.Y. 1975). The court must compare the asserted claims with the accused product. *Amstar Corp. v. Enviro Tech Corp.*, 730 F.2d 1476 [221 USPQ 649] (Fed. Cir.), *cert. denied* 469 U.S. 924 [224 USPQ 616] (1984). The court must compare the accused device with the claims of the patent, rather than with any particular embodiment of the patent. *CTS Corp. v. Piher Int'l Corp.*, 527 F.2d 95 [188 USPQ 419] (7th Cir. 1975), *cert. denied* 424 U.S. 978 [189 USPQ 384] (1976). If the accused device falls clearly within the claim, infringement is made out and that is the end of it. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605 [85 USPQ 328] (1950).

Mr. Pfaff contends that all limitations on Claims 1 and 6 through 10 of his patent can be read on the Wells devices. The court disagrees, and finds no literal infringement of the Pfaff patent by the Wells device. The Wells device differs from Claim 1 of the patent-in-suit in three ways:

1. The Wells socket construction does not have "axially elongated conductive pins". Instead, it includes conductive pins that are

shortened and are rolled outwardly by a return bent portion.

2. Sub-paragraph b of Claim 1 describes "inner edges of said pins converging slightly inwardly with distance from said first major face". The conductive pins in the Wells device do not have opposed inwardly converging inner edges. Further, Wells' edges are not functionally equivalent to the inner edges of the device described in Claims 1 through 6 of the patent in suit. The inner edges of the Wells device engage only the edge of the carrier and do not overlap to secure the carrier as described and shown in the patent-in-suit. *Cf. Lockheed Aircraft Corp. v. United States*, 553 F.2d 69 [193 USPQ 449] (Ct. Cl. 1977).

3. Sub-paragraph (c) of Claim 1 describes a "unitary means . . . coacting with said inner edges of said pins . . . " The unitary spreader means of the Wells device does not coact with those inner edges of the conductive pins that define the cavity. The unitary spreader means of the Wells device coacts with an arm extended from the pins. Even if the court views the arms, as Professor Hal Watson testified on behalf of Mr. Pfaff, as inner edges of the conductive pins, those "inner edges" formed by the arms are not the same "inner edges" that define the cavity.

Because Claim 6 of the patent-in-suit incorporates Claim 1, the Wells device differs from Claim 6 in the same three ways. *Autogiro Company of America v. United States*, 384 F.2d 391 [155 USPQ 697] (Ct. Cl. 1967).

The Wells device differs from Claim 7 of the patent-in-suit in three ways:

1. The Wells socket construction does not have "axially elongated conductive contact means". Instead, it includes conductive contact means that are shortened and are rolled outwardly by a return bent portion.

2. Sub-paragraph (b) of Claim 7 describes the contact means as "having edges which incline inwardly toward said cavity in said plane substantially parallel with said first major face and outwardly from said cavity in a second plane substantially parallel with said first major face". The contact means of the Wells device are not so inclined.

3. Sub-paragraph (c) of Claim 1 describes a "unitary spreader means . . . mating with said inclined inner edges of said contact means . . . " Again, as with Claim 1, the unitary spreader means of the Wells device does not mate with those inner edges of the conductive contact means that define the cavity.

Because Claims 8, 9 and 10 of the patent-in-suit incorporate Claim 7, the Wells device differs from Claims 8, 9 and 10 in the same three ways. *Autogiro Company of America v. United States*, 384 F.2d 391 [155 USPQ 697] (Ct. Cl. 1967).

B. Doctrine of Equivalents

Mr. Pfaff also claims to have shown infringement through the doctrine of equivalents. Under this doctrine, which comes into play only if literal infringement is not found, infringement may be found "if an accused device performs substantially the same overall function or work, in substantially the same way, to obtain substantially the

same overall result as the claimed invention". *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 [4 USPQ2d 1737, 1739] (Fed. Cir. 1987) (en banc), *cert. denied* 108 S.Ct. 1474 (1988); *accord, Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1361 [219 USPQ 473, 480] (Fed. Cir. 1983). The doctrine is grounded in equity to avoid conversion of a patent into a hollow and useless thing. *Graver Tank & Mfg. Co. v. Linde Air. Products Co.*, 339 U.S. at 608 [85 USPQ at 330]. The range of equivalents to be protected depends upon the merits of the patented invention and the degree of improvement in the art. *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405 (1908); *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *Price v. Lake Sales Supply R.M., Inc.*, 510 F.2d 388 [183 USPQ 519] (10th Cir. 1974).

Wells contends that the doctrine of prosecution estoppel precludes Mr. Pfaff from the benefit of the doctrine of equivalents with respect to the Wells device. The court concurs with Wells' contention.

Under the doctrine of prosecution estoppel, one who was forced to narrow or restrict his patent's claims through amendment to convince the examiner of the device's patentability cannot rely upon the doctrine of equivalents as to the specifically amended elements or parts. *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861 [228 USPQ 90] (Fed. Cir. 1985); *Thomas & Betts Corp. v. Litton Systems, Inc.*, 720 F.2d 1572 [220 USPQ 1] (Fed. Cir. 1983). The doctrine is not to be applied woodenly; because amendment of claims is a common practice in the prosecution of patent applications, not all amendments will preclude resort to the doctrine of equivalents. *Hughes Aircraft Co. v. United States*, 717 F.2d at 1362-1363 [219

USPQ at 481-482]. The doctrine of prosecution estoppel applies, however, both to amendments to overcome rejections based on prior art and to arguments submitted to obtain the patent. *Id.* at 1362 [219 USPQ at 481].

A review of the application file reveals that the patent examiner rejected Mr. Pfaff's initial application because the claims were clearly anticipated by United States Patent No. 3,753,211, issued in 1973 to William Pauza and others ("the Pauza patent"; Defendant's Exhibit ABE). The Pauza device was a direct force insertion device; an upper part operated against the outside of the pins to force them inwardly into contact with a leaded integrated circuit assembly. In traversing that rejection and amending his claims, Mr. Pfaff argued:

> Claim 1 (as now amended) includes "means operable independently of said leadless chip carrier and coacting with the *inner edges* of said pins" (emphasis added). Claim 1 has thus been amended to clearly note that the spreader means operates on the *inner* edges of the pin (as contrasted to the outer edges as shown in Pauza, et al). It is respectfully submitted, therefore, that the structure defined by Claim 1 is wholly foreign to the structure disclosed by Pauza, et al.
>
> Likewise, Claim 7 has been amended to note that the spreader means meets with the inclined *inner* edges of the contact means rather than the outer edges of the contact means as disclosed by Pauza, et al.
>
> * * *
>
> . . . since the lid means of Pauza, et al contacts the outer surface of the contact pin, and further since Pauza, et al provides no means

> whatsoever for spreading the pins to allow insertion of the leaderless chip carrier therebetween as specifically set forth in applicant's Claims 8 and 9, it is respectfully submitted that the rejection of Claims 8 and 9 is likewise inapposite and should be withdrawn.
>
> (Defendant's Exhibit B).

The patent examiner rejected Claims 1 and 6 through 10 of Mr. Pfaff's first amended application as being anticipated by United States Patent No. 4,159,861 issued in 1979 to John Anhalt ("the Anhalt patent"; Defendant's Exhibit ABF). The Anhalt patent appears to depict pins that rise from the base with an inward incline, then bend outward in a nearly semi-circular fashion; a camming device appears to work upwardly against the inner end of the semi-circle to force the pins apart.

In response, Mr. Pfaff again amended his claims. In sub-paragraph (b) of Claim 1, he added the words "axially elongated" to described the conductive pins, and added the words "opposed inner edges of the" to describe the parts of the pins that are arranged to define the cavity. In sub-paragraph (b) of Claim 7, Mr. Pfaff added the words "with their inner edges defining" to specify the portions of the contact means that define the cavity. In sub-paragraph (c) of Claim 7, Mr. Pfaff added the underlined [italics] language so the claim read, in part, "*unitary* spreader means . . . mating with *said* inclined inner edges of said contacts means . . . " Mr. Pfaff explained the importance of the amendments:

> In applicant's device, the spreader means is a *unitary means* moveable axially with respect to

> the contact pins but only a single camming surface. This camming surface mates with the *opposing inner edges* of the contact means . . . rather than folded over outer edges as shown in the [Anhalt patent]. Furthermore, applicant's device specifically defines a *unitary* spreader. . . . By using the unitary design of applicant's invention and adapting the spreader camming surface to mate with the *internal* edges of the contact pins (rather than the *external* edges as in the reference), a completely different mode of operation is produced.
>
> * * *
>
> Claim 7 (the only other independent claim) has also been amended to specifically recite that the contact means are arranged with their *inner* edges defining a rectangular cavity and that a *unitary* spreader means having an inclined surface mates with the inclined *inner edges* of the contact means to spread the contacts. As pointed out hereinabove with respect to Claim 1, the Anhalt reference does not show a *unitary* spreader means. Instead, the Anhalt spreader comprises five different parts interconnected by a connecting pin and *does not coact with the inner edges*.
>
> Instead it cams against the *outer edges* of the pins.
>
> . . . .
>
> (Defendant's Exhibit B). The application was approved as amended.

Thus, during the prosecution of his patent application, Mr. Pfaff amended Claim 1 to include the term "axially elongated" with reference to the conductive pins,

and to add the phrase "coacting with said inner edges of said pins" in reference to the spreader means. Claims that Mr. Pfaff amended to distinguish them from prior patents are those that preclude a finding of literal infringement. Mr. Pfaff cannot now contend that the Wells pins, with their return bent parts, are equivalent. He cannot now contend that the Wells device, in which the spreader coacts with the arms extended from the pins, are equivalent. The doctrine of prosecution estoppel precludes resort to the doctrine of equivalents.

III. Invalidity

By way of counterclaim, Wells contends that the Pfaff patent is invalid because of its lack of novelty, its obviousness, its development more than one year before application for a patent, and its description of an embodiment or concept not disclosed or supported by the description or specification of the patent.

A patent is presumed valid. 35 U.S.C. §282. This presumption is rebuttable, but the party claiming invalidity bears the burden of going forward, *Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881 [221 USPQ 1025] (Fed. Cir. 1984), as well as the burden of persuasion, *SSIH Equipment, S. A. v. United States International Trade Com'n*, 713 F.2d 746, 718 F.2d 365 [218 USPQ 678] (Fed. Cir. 1983), by evidence that is clear and convincing or beyond a reasonable doubt. *Hobbs v. United States Atomic Energy Com'n*, 451 F.2d 849 [171 USPQ 713] (5th Cir. 1971); *Gatch Wire Goods Co. v. W.A. Laidlaw Wire Co.*, 108 F.2d 433 [44 USPQ 5] (7th Cir. 1939). The existence of prior art not

cited by the examiner assists the satisfaction of this burden, *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452 [221 USPQ 481] (Fed. Cir. 1984); *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888 [221 USPQ 669] (Fed. Cir.), *cert. denied* 469 U.S. 857 [225 USPQ 792] (1984), but to overcome the presumption of invalidity, the party asserting invalidity still must show that the patents not cited by the examiner are more pertinent than the cited references. *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452 [221 USPQ 481] (Fed. Cir. 1984); *Solder Removal Co. v. International Trade Com'n*, 582 F.2d 628 [199 USPQ 129] (C.C.P.A. 1978); *Sing v. Culture Products, Inc.*, 469 F.Supp. 1249 [204 USPQ 848] (E.D. Mo. 1979).

A. Novelty

35 U.S.C. §102(a) states, "That a person shall be entitled to a patent unless (a) the invention was known or used by others in this country . . . before the invention thereof by the Applicant for patent . . . " To mount an attack based on want of novelty, one claiming invalidity must show the presence of each element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d at 1458 [221 USPQ at 485]. Wells points to its own preexisting device in support of its novelty attack.

Wells had sold a socket device known as the TO-5 contactor since the early 1970s. (Defendant's Exhibits AW and BR). The TO-5 contactor device includes a removable carrier portion for accepting a leaded transistor component. The carrier portion is sectioned so as to insulate

electrically and support the transistor leads. The device also includes a top shiftable to engage a plurality of contacts to spread the contacts so that, upon appropriate positioning of the top, the component leads are biased against the contacts. Under the operation of the TO-5 contactor, a transistor is supported by the carrier and positioned such that its leads serve merely as contact parts that are engageable with the socket contacts.

Like Claim 1 of the patent-in-suit, the TO-5 socket includes: (a) a base support means having first and second oppositely disposed major faces; (b) a plurality of axially elongated conductive pins passing transversely through said base support means substantially perpendicular to said first and second major faces; (c) the opposed inner edges of said ends of said pins extending from said first major face arranged to define a cavity . . . in a plane parallel with said first major face; (d) the inner edges of said pins converging slightly inwardly with distance from said first major face; and (e) unitary means . . . reciprocally moveable axially with respect to said pins and coacting with said opposed inner edges of said pins for uniformly spreading the ends of said pins extending from said first major face to permit the insertion of a [device] therebetween.

Like Claim 7 of the patent-in-suit, the TO-5 socket discloses: (a) a support housing having first and second oppositely disposed major faces; (b) a plurality of axially elongated contact means mounted within said support housing and extending therethrough with their axes aligned parallel to each other and normal to said first and second major faces; (c) the free ends of said contact means extending from said first major face with their

inner edges defining a cavity . . . in a plane substantially parallel with said first major face; (d) the ends of said contact means defining said cavity having edges which incline inwardly toward said cavity . . . and outwardly from said cavity . . . ; (e) unitary spreader means comprising a substantially rectangular body arranged substantially parallel with said first major face and reciprocally moveable axially with respect to said contact means; (f) said spreader means having a surface inclined with respect to the axes of said contact means and mating with said inclined inner edges of said contact means; (g) whereby movement of said spreader means axially with respect to said contact means in a first direction urges said free ends of said contact means outwardly with respect to said cavity.

The TO-5 is not, however, a mounting means for a leaderless chip carrier. The cavity defined by the pins is round; leaderless chip carriers are rectangular, and Claim 1 describes a "cavity substantially conforming to at least two oppositely disposed lateral peripheral dimensions of said leaderless chip carrier . . . " Finally, the TO-5 Contactor's unitary means does not operate independently of the device being inserted. The device or carrier is placed atop the spreader; one must push downward on the device or carrier to put it in place. While the spreader means may be depressed without pressing on the device or carrier, the resulting contact is a poor one, and the contactor would not perform the function of "wiping" the contact as advertised in Defendant's Exhibit AW.

Wells has not shown, by clear and convincing evidence, that the Pfaff patent is invalid for lack of novelty.

B. Obviousness

35 U.S.C. §103 provides, in pertinent part:

> EMA patent may not be obtained . . . if the difference between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person of ordinary skill in the art to which the subject matter pertains.

Wells contends that the patent-in-suit is invalid due to obviousness. To resolve such a contention, the court must determine the scope and content of the prior art, differences between the prior art and the claims at issue, and the level of ordinary skill in the pertinent art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 [148 USPQ 459, 467] (1966). Evidence that the elements of the claims can be found in various prior art devices or references does not alone constitute obviousness. *Jones v. Hardy*, 727 F.2d 1524, 1528 [220 USPQ 1021, 1024-1025] (Fed. Cir. 1984). The court must consider the claimed invention as a whole, rather than as a mere catalog of parts. *In Re Antoine*, 559 F.2d 618 [195 USPQ 6] (C.C.P.A. 1977). The question is not simply whether the prior art "teaches" a particular element of the invention, but whether it would "suggest the desirability, and thus the obviousness, of making the combination". *Alco Standard Corp. v. Tennessee Valley Authority*, 808 F.2d 1490, 1498 [1 USPQ2d 1337, 1343] (Fed. Cir. 1986), *cert. denied* 108 S.Ct. 26 (1987). The matter is not be resolved by hindsight. *Medtronic Inc. v. Daig Corp.*, 611 F.Supp. 1498 [227 USPQ 509] (D. Minn. 1985), *aff'd* 789 F.2d 903 [229 USPQ 664] (Fed. Cir.), *cert. denied* 107 S.Ct. 402 (1986). The court also must consider

secondary considerations such as commercial success, long-felt but unsolved needs, and the failures of others. *Graham v. John Deere Co.*, 383 U.S. at 17 [148 USPQ at 467]; *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 [218 USPQ 871, 879] (Fed. Cir. 1983).

Wells points to several examples of prior art in support of its assertion. First, it notes its own TO-5 contactor, which is discussed above.

Wells also points to U.S. Patent No. 4,303,294, issued to Wilbur Hamsher in December, 1981 (Defendant's Exhibit H), a patent not cited by the examiner. That patent discloses (a) base support means 30 having first and second oppositely disposed major faces; (b) a plurality of axially elongated conductive pins 10 passing transversely through the base support means substantially perpendicular to said first and second major faces; (c) the opposed inner edges 14 of the pins 12 defining a cavity; (d) the inner edges 14 of the pins 12 converge slightly inwardly with distance from said first major face; (e) unitary means 40 reciprocally moveable axially with respect to the pins 12 and coacting with the opposed inner edges 14 of pins 12 for uniformly spreading the ends of pins 12 extending from the first major face.

The device shown in the Hamsher patent, however, has no unitary spreader device. It uses a rotating cam and cam follower to move the spreader. Rotation of the cam follower urges the cam upward, spreading the contacts; reversal of the rotation allows the cam to return to its downward position, allowing the contacts to close around a chip carrier.

Wells also relies on U.S. Patent No. 3,899,234, issued to Marvin Yeager and others in 1975 ("the Yeager patent"; Defendant's Exhibit S), a patent not referenced by the examiner. That patent discloses: (a) base support means 10 having first and second oppositely disposed major faces; (b) a plurality of axially elongated conductive pins 16 passing transversely through the base support means 10 substantially perpendicular to said first and second major faces; (c) the opposed inner edges 46 of pins 16 defining a cavity; (d) inner edges 46 of pins 16 converge slightly inwardly with distance from said first major face; (e) unitary means 14 reciprocally moveable axially with respect to pins 16 and coacting with the opposed inner edges 46 of pins 16 for uniformly spreading the ends of pins 16 extending from the first major face; and (f) contact means 16 . . . having edges which incline inwardly 46 toward said cavity and outwardly 44 from said cavity.

The Yeager patent, however, is a device intended for use with printed circuit boards. The Yeager patent employs a cam and cam follower rather than a unitary spreader. With respect to its contacts and means of operation, it appears no more pertinent to the Pfaff patent than the Anhalt patent.

Wells also points to U.S. Patent No. 4,390,220, issued to John Benasutti in 1983 (Defendant's Exhibit ABG), a reference cited by the examiner. That patent discloses a four-sided socket for electrically connecting an integrated circuit package to a printed circuit board. It is not, however, a zero-insertion-force device; it employs a lid that comes down to force the chip carrier into the socket. The device shown in the Benasutti patent achieves its purposes quite differently than does the Pfaff device. The

Benasutti patent has little correspondence with paragraph (c) of Claim 1 or paragraph (c) of Claim 7 of the patent-in-suit.

U.S. Patent No. 3,951,495, issued to Charles Donaher and others in 1976 (Defendant's Exhibit P), relates to a receptacle for a rectangular, leadless package. The examiner made no reference to the Donaher patent. The receptacle contains a plurality of spring contacts for electrically connecting a leadless carrier to a printed circuit board. Like the Benasutti patent, the Donaher patent has little correspondence with paragraph (c) of Claim 1 or paragraph (c) of Claim 7 of the patent-in-suit. Further, the Donaher device contacts the leaderless chip carrier only on the bottom side of the carrier ("live bug"),[4] rather than on the side and top as does the Pfaff device. The device shown in the Donaher patent is not a zero-insertion-force device. The Donaher patent is not more pertinent to the Pfaff patent than the Anhalt patent.

The examiner also made no reference to U.S. Patent No. 3,982,159, issued to Richard Dennis and others in 1976 (Defendant's Exhibit O). The Dennis patent discloses a leadless package retaining frame including a plurality of biased contact surfaces housed within a square frame for electrically connecting a leadless chip package to a circuit board. The Dennis patent does not disclose a zero-

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[4] Sockets apparently are described in the trade as being "live bug" or "dead bug". In a "live bug" socket, a chip carrier is inserted with its leads or lands toward the bottom, like the legs of a live bug. In a "dead bug" socket, the chip carrier is inserted with its leads or lands toward the top, like the legs of a dead bug.

insertion-force device and has no structure such as that described in paragraph (c) of Claim 1 or paragraph (c) of Claim 7 in the patent-in-suit. The Dennis patent discloses a "live bug" design. The Dennis patent is not more pertinent to the Pfaff patent than the Anhalt patent.

The examiner made no reference to another patent issued to Marvin Yeager, U.S. Patent No. 4,047,782, in 1977, which discloses a spreader means and a plurality of axially elongated contactors having inwardly converging inner edges engageable with the spreader means. (Defendant's Exhibit M). The device disclosed by Patent No. 4,047,782, however used a rotating cam system, and was not designed to accept leadless chip carriers. This patent is not more pertinent to the Pfaff patent than the Anhalt patent.

The examiner made no reference to U.S. Patent No. 4,045,105, issued to James Lee and others in 1977, which discloses a rectangular leadless package receptacle for mounting leadless packages. (Defendant's Exhibit ABO). The Lee patent discloses no structure such as that described in paragraph (c) of Claim 1 or paragraph (c) of Claim 7 of the patent-in-suit. It is not a zero- insertion-force device. It is designed for "live bug" insertion. The Lee patent does not appear more pertinent to the Pfaff patent than the Anhalt patent.

Wells also notes its own DIP socket (Defendant's Exhibit AV) and DIP contactor (Defendant's Exhibit AX), which disclose a shiftable top for camming open contacts that normally are closed. The socket and contactor are designed to accept a carrier with leads on two sides; they would not accept a leaderless chip carrier. The examiner

did not reference any sockets for leaded devices, but the Wells DIP socket and DIP contactor do not appear to be more pertinent to the Pfaff patent than the referenced patents.

Turning to the other factors to be considered under *Graham v. John Deere Co.*, 383 U.S. 1 [148 USPQ 459], the court finds that the level of skill in the art of housing leadless chip carriers encompasses a degree of knowledge and experience typified by mechanical design engineers working in the field of electronic device packaging. Commercial success directly related to the merits of the invention is evidenced by dramatic increases in annual sales of the patented device following its introduction in 1981. Sales of the patented device were as follows:

YEAR	SALES
1981	$ 350,000.00
1982	937,000.00
1983	2,800,000.00
1984	3,430,000.00
1985	4,088,000.00
1986	5,900,000.00

The invention's commercial success is demonstrated further by recognition that Mr. Pfaff's competitors, even those who make non-infringing devices, have been forced to accept certain features of the patented device as an industry standard, such as the output pin configuration,

top loading capability and overall product outline. (Plaintiff's Exhibits 6, 8 and 9). The Patented device immediately captured the dominant share of the market for such devices.

Based on the testimony of Dr. Hal Watson (which the court found persuasive on this issue), the foregoing examinations of the cited examples of prior art, and the commercial success achieved by the invention, the court concludes that the cited examples and references of prior art taken alone or in any combination or reconstruction reasonably suggested to one skilled in the art do not teach how to make the patented invention except by impermissible use of hindsight knowing the patent's disclosure to be the desired goal. Accordingly, the court concludes that Wells has not met its burden of proving that any claim in the patent-in-suit is invalid under 35 U.S.C. s103.

C. On Sale

35 U.S.C. §102(b) provides, "That a person shall be entitled to a patent unless . . . the invention was . . . in public use or on sale in this country, more than one year prior to the date of application for the patent in the United States . . ." Wells contends that the claims of the Pfaff patent are invalid due to the purchase order submitted by Delta V on April 8, 1981, Mr. Pfaff's detailed drawings, and the presumptions of a "deal". Mr. Pfaff filed his application for the patent-in-suit on April 19, 1982, thus establishing April 19, 1981 as the critical date before which any legally sufficient sale of the invention would result in a bar to obtaining the patent.

The claims were not reduced to practice before April 19, 1981. Reduction to practice refers to the physical act of producing the desired result by the means conceived by the inventor. *Boyce v. Anderson,* 451 F.2d 818 [171 USPQ 792] (9th Cir. 1971). *See also UMC Electronics Co. v. United States,* 816 F.2d 647 [2 USPQ2d 1465] (Fed. Cir. 1987), *cert. denied* 108 S.Ct. 748 (1988). The information was merely described on paper in the form of mechanical drawings before the critical date. No component parts had been manufactured or assembled; no testing was done until after delivery, well after the critical date. Wells has shown only that a concept of the invention existed before the critical date; that showing is insufficient under 35 U.S.C. §102(b). The patent-in-suit is not rendered invalid under §102(b).

D. Invalidity Under 35 U.S.C. §112

The first paragraph of 35 U.S.C. §112 provides in pertinent part:

> The specification shall contain a written description of the invention, and the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Wells contends that the claims of the patent-in-suit fail under this requirement. Wells argues that Claim 1 of the patent-in-suit describes a concept not disclosed in the description or specification of the patent. Sub-paragraph

(b) of Claim 1 describes "the opposed inner edges" of the conductive pins as being arranged to define a cavity and also describes "the inner edges of said pins converging slightly inwardly with distance from said first major face" of the base support for the socket. Accordingly, Wells argues, Mr. Pfaff claims that the opposed inner edges of the conductive pins that define the cavity extend from the base and also converge inwardly. Sub-paragraph (c) of Claim 1 then defines the top as a unitary means "coating with said opposed inner edges of said pins for uniformly spreading the ends of said pins". The spreader does not, however, contact the inwardly converging ends of the pins, but rather the outwardly diverging ends. Wells concludes that Claim 1, as written, describes an embodiment or concept not disclosed or supported by the description or specification of the patent.

Wells relies upon *In Re Hammack*, 427 F.2d 1384 [166 USPQ 209] (C.C.P.A. 1970), and *Ex Parte Erlich*, 3 U.S.P.Q.2d 1011 (Bd. Pat. App. & Int., 1986). Those cases, however, involved appeals from examiners' rejections of claims; this case involves a patent, entitled to a presumption of validity, in which the examiner raised no issues under §112. *See Water Technologies Corp. v. Calco Ltd.*, 658 F.Supp. 961 [1 USPQ2d 1178] (N.D. Ill. 1986), *aff'd in part and rev'd in part* 7 U.S.P.Q.2d 1097 (Fed. Cir. 1988); *Briggs v. M & J Diesel Locomotive Filter Corp.*, 228 F.Supp. 26 [141 USPQ 96] (N.D. Ill. 1964), *aff'd* 342 F.2d 573 [144 USPQ 701] (7th Cir. 1965), *cert. dismissed* 382 U.S. 801 (1965).

Recognizing that claims are not to be read in a vacuum, and that limitations therein are to be interpreted in light of the specification in giving them their broadest

reasonable interpretation, *In Re Marosi*, 710 F.2d 799 [218 USPQ 289] (Fed. Cir. 1983), the court concludes that Wells has not met its burden of overcoming the presumption of the patent's validity.

IV. Conclusion

Based on the foregoing, the court concludes that the Wells device does not literally infringe upon the patent-in-suit, and that Mr. Pfaff cannot resort to the doctrine of equivalents to prove infringement due to the doctrine of prosecution estoppel. Accordingly, judgment shall be entered for the defendant on the plaintiff's complaint.

The court further concludes that Wells has not overcome the presumption of validity of the Pfaff patent with respect to any of its challenges. Accordingly, judgment shall be entered for the plaintiff on the defendant's counterclaim.

SO ORDERED.

Title	Docket Number	Date	Disposition	Appeal from and Citation
American Federation of Government Employees, Local 900 v. Army Reserve Personnel Center	89-3175	8/15/89	AFFIRMED	MSPB
Ballentine v. Department of Justice	89-3193	8/15/89	AFFIRMED	MSPB, 39 M.S.P.R. 543
Oconto Elec., Inc. v. U.S.	89-1226	8/18/89	AFFIRMED	ASBCA
†Control Power Systems, Inc. v. TIF Instruments, Inc.	89-1330	8/18/89	AFFIRMED	D.Ct./ S.D.Fla.
†Ortloff Corp. v. Gulsby Engineering, Inc.	89-1022, 89-1047, 89-1048	8/24/89	AFFIRMED	D.Ct./ S.D.Tex., 706 F.Supp. 1295
†Klein v. Cannondale Corp.	89-1216	8/24/89	AFFIRMED IN PART AND VACATED IN PART	D.Ct./ D.Conn.
Gleaves v. Department of Navy	89-3108	8/24/89	AFFIRMED	MSPB

Lyle v. Department of Air Force	89-3120	8/24/89	AFFIRMED	MSPB
†Charleswater Products, Inc. v. Spaulding Fibre Co., Inc.	89-1223, 89-1224	8/25/89	AFFIRMED	D.Ct./ D.N.H.
O'Neil v. Department of Army	89-3174	8/25/89	AFFIRMED	MSPB
Brown v. Office of Personnel Management	89-3224	8/25/89	AFFIRMED	MSPB
Wills v. Department of Navy	89-3214	8/28/89	AFFIRMED*	MSPB
†Benn, In re	89-1115	8/29/89	AFFIRMED	PTO
Carothers & Carothers Const. Co., Inc. v. U.S.	89-1222	8/29/89	AFFIRMED	ENG BCA
†Pfaff v. Wells Electronic, Inc.	88-1607-88-1608	8/31/89	AFFIRMED IN PART AND VACATED IN PART	D.Ct./ N.D.Ind.
†Gemveto Jewelry Co., Inc. v. Jeff Cooper, Inc.	89-1055	8/31/89	AFFIRMED	D.Ct./ S.D.N.Y., 694 F.Supp. 1085

† Denotes patent appeals.
* Federal Circuit Rule 36.

§ 102. Conditions for patentability: novelty and loss of right to patent

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2) and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

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§ 261. Ownership; assignment

Subject to the provisions of this title, patents shall have the attributes of personal property.

Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing. The applicant, patentee, or his assigns or legal representatives may in like manner grant and convey an exclusive right under his application for patent, or patents, to the whole or any specified part of the United States.

A certificate of acknowledgment under the hand and official seal of a person authorized to administer oaths within the United States, or, in a foreign country, of a diplomatic or consular officer of the United States or an officer authorized to administer oaths whose authority is proved by a certificate of a diplomatic or consular officer of the United States, or apostille of an official designated by a foreign country which, by treaty or convention,

accords like effect to apostilles of designated officials in the United States, shall be prima facie evidence of the execution of an assignment, grant or conveyance of a patent or application for patent.

An assignment, grant or conveyance shall be void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent and Trademark Office within three months from its date or prior to the date of such subsequent purchase or mortgage.

* * *

AMENDMENT V [1791]

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

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(2)

Supreme Court, U.S.
FILED
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No. 97-1130

In The

Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Petition For A Writ Of Certiorari
To The United States Court Of Appeals
For The Federal Circuit

RESPONDENT'S BRIEF IN OPPOSITION

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PARTIES TO THE PROCEEDING

The petition accurately lists the parties in the proceeding.

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STATEMENT OF THE CASE

With regard to the comment made by the petitioner at the top of page 4 of the petition, the District Court did not find that the Pfaff invention was totally new, but rather it "appears" to be totally new with respect to each component part. App. 126.

Mr. Pfaff's development of his invention and his offer of sale prior to the critical date on April of 1981 covers several factual findings and developments not specifically identified or mentioned by the petitioner. These facts and circumstances are specifically described in the District Court's opinion at App. 121-123 and are further summarized in the Federal Circuit's opinion at App. 9-11. Prior to the critical date, Pfaff received a substantial purchase order from a company called Delta V on behalf of Texas Instruments for 30,100 sockets intended for production use. Mr. Pfaff completed detailed engineering drawings of his concept even before the written purchase order was issued with the drawings being sent to a company which was to turn-key or produce the sockets on behalf of Mr. Pfaff. This turn-key or production company completed at least one of its own drawings prior to the critical date. Mr. Pfaff further indicated that it was not his practice to produce prototypes since he goes strictly from drawings to hard tooling. Mr. Pfaff indicated that when he came up with his initial drawings his idea was going to work. Mr. Pfaff further indicated that he considered the purchase order to be a "go" situation and that he had a "deal," all prior to the critical date.

REASONS FOR DENYING THE WRIT

I. The Federal Circuit's Decision Invalidating the Pfaff Patent Represents an Appropriate Interpretation of 35 U.S.C. Section 102(b).

Section 4886 of the Revised Statutes which initially included a two year statutory grace period regarding public use or on sale and which was amended in 1939 to a one year statutory grace period, referred in the alternative to the applicant's "invention or discovery thereof." Thus, from an interpretive standpoint the public use or on sale referred to an "invention or discovery" with no particular definition being given to either term. Under the Revised Statutes, there was no apparent definitive discussion within the legislative histories or from a literal reading of the statute to understand the parameters of what is an invention or discovery and to what extent such invention or discovery has to be developed for the purpose of starting the grace period allowed by the Revised Statutes. A fully constructed and developed invention will of course comply, but what of something less than a full development when considering offering for sale. As to what is an invention or discovery under the Revised Statutes with regard to a public use appears to allow a more definitive definition of the inventive object than in defining the status of the inventive object when referring to an on-sale or offering for sale as the statute allowed.

Upon the enactment of the 1952 Patent Act, Section 4886 of the Statute was rewritten as Section 102. The use of the alternative "invention or discovery" was omitted with the word "invention" only remaining. Even as early as 1981 as stated in *General Electric Co. v. United States*,

654 F.2d 55, 62 (Ct. Cl. 1981), there were exceptions to the then practice of some courts requiring a reduction to practice before the prohibitory bar of Section 102(b) was to be invoked. Mr. Pfaff, the inventor, knew full well and expressed the unqualified opinion that his devise would work or function, stated he had a sale or deal, and produced detailed engineering drawings of his device, all prior to the critical date. Some of these drawings produced by Pfaff prior to the critical date find almost exact correlation with the patent drawings utilized in his patent application. Thus, the only, and obviously the most beneficial, embodiment of Mr. Pfaff's invention was perfected prior to the critical date and formed the subject matter of the patent application which matured into the patent in suit.

Contrary to the assertion made by the petitioner in footnote 1 on page 6 of his petition, Section 102(g) of the Patent Act of 1952 does not define the term "invention." Dates of conception and reduction to practice are used to determine only priority of invention under sub-section (g).

As stated in *Ferag AG v. Quipp, Inc.*, 45 F.3d 1562 (Fed. Cir. 1995), the foremost policy of Section 102(b) regarding on-sale determinations is to prevent inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory period. Thus, "the inventor is strictly held to the requirement that he file his patent application within one year of any attempt to commercialize the invention." *Id.* at 1566.

II. The Standard Applied by the Federal Circuit Does Not Constitute a Violation of the Fifth Amendment of the Constitution.

During the course of the Indiana suit by Mr. Pfaff against *Wells Electronics, the UMC Electronics Co. v. United States*, 816 F.2d 647 (Fed. Cir. 1987) case had been decided and its holding that a reduction to practice would not always be a requirement for the on-sale bar was a part of then current law considered by the District Court in Indiana (see App. 198). Mr. Pfaff at the time of the Indiana appeal never raised any contention that the application of the UMC Electronics case holding considered by the Indiana District Court was in violation of any Constitutional provision. Nor was there any objection by Mr. Pfaff on a Constitutional basis of the application of the UMC Electronics doctrine during the trial and subsequent judgment in the Dallas case (see App. 124). Additionally, there was no objection upon a Constitutional basis of the UMC Electronics doctrine during the appeal procedure before the Federal Circuit which resulted in the September 8, 1997 appellate decision being appealed from.

Mr. Pfaff states at page 14 of his petition that the "Federal Circuit's decision in this case rejects the law as it existed at the time of the petitioner's April 1982 patent application." This is not true. In the *UMC Electronics* case, at page 656, the Federal Circuit Court made it clear that "reduction to practice has not been and should not be made an absolute requirement of the on-sale bar." The court explained that they had never been squarely presented with the issue before that time and it could "not be said that this court has taken a definite position either way" on the issue. *Id.* at 654. Therefore, contrary to Mr.

Pfaff's contention, the law as it existed at the time of his patent application did not absolutely require a reduction to practice.

CONCLUSION

For the reasons given above, the petition should be denied.

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(3)

Supreme Court, U.S.
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WAYNE K. PFAFF,

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Certiorari Granted March 9, 1998

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The following opinions, decisions, judgments, orders, and other materials have been omitted in printing this joint appendix because they appear on the following pages in the appendix to the printed Petition for Certiorari:

1. Opinion of the United States Court of Appeals for the Federal Circuit, Case # 92-1431, dated September 10, 1993, on appeal from summary judgment of non-infringement in Case # 3:91-CV-1542-H (N.D. Tex.) ..... App. 155
2. Report and Findings of Fact and Conclusions of Law of Special Master in Case # 3:91-CV-1542-H, dated October 19, 1995 ..... App. 23
3. Final Judgment on Liability in Case # 3:91-CV-1542-H (N.D. Tex. 1995), dated December 29, 1995 ..... App. 21
4. Opinion of the United States Court of Appeals for the Federal Circuit, Case # 96-1150, consolidated with Case # 96-1187, September 8, 1997, cross-appeals from Final Judgment on Liability entered by trial court in Case # 3:91-CV-1542-H ..... App. 1
5. Order of the United States Court of Appeals for the Federal Circuit, Case # 96-1150, consolidated with Case # 96-1187, dated dated October 3, 1997, denying Cross-Appellant's Pettion for Rehearing .. App. 170
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U.S. District Court
Northern District of Texas (Dallas)

CIVIL DOCKET FOR CASE #: 91-CV-1542

Pfaff v. Wells Electronic Inc — Filed: 08/01/91
Assigned to:
Senior Judge Barefoot Sanders
Demand: $0,000 — Nature of Suite: 830
Lead Docket: None — Jurisdiction:
Dkt# in other court: None — Federal Question

Cause: 35:271 Patent Infringement

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8/1/91	1	COMPLAINT filed; Filing Fee $120.00 Receipt # 36322 (14) (rlw) [Entry date 08/02/91]
8/1/92	2	SUMMONS(ES) issued for Wells Electronic Inc (iss-2 thru Sec'y of State) (rlw) [entry date 08/02/91]
8/2/91	3	Report on the Filing or Determination of an Action Regarding a Patent. Mailed to Wash. this date. (rlw)
8/22/91	4	RETURN OF SERVICE executed as to Wells Electronic Inc 8/5/91. Copy forward on 8/6/91 by certified mail, return receipt requested to Arthur R Midili, Agent, at 1701 So. Main, South Bend, Indiana. Return receipt received in office dated 8/9/91 bearing signature of agent. Answer due on 8/25/91 for Wells Electronic Inc. (1) (cxb) [Entry date 08/27/91]
8/27/91	5	MOTION by Wells Electronic Inc for a more definite statement, or to dismiss the complaint (1) (cxb) [Entry date 09/03/91]
08/27/91	6	MEMORANDUM by Wells Electronic Inc in support of [5-1] motion for a more definite statement, [5-2] motion to dismiss the complaint. (7)(cxb) [Entry date 09/03/91]
9/5/91	9	MEMORANDUM by Wayne K Pfaff in opposition to [5-1] defendant's motion for a more definite statement, [5-2] motion to dismiss the complaint (svc) [Entry date 09/17/91]

9/12/91	7	ORDER denying [5-1] motion for a more definite statement denying [5-2] motion to dismiss the complaint . . . deft. is to file its answer by noon, 9/23/91 . . . each party is responsible for its own attys. fees in relation to this motion. (signed by HBS-cpys to counsel 9/12 – (4)) (dph)
9/12/91	8	STATUS REPORT ORDER. Status report due on 10/3/91 (signed by HBS-cpys to counsel 9/12 – (2)) (dph)
9/24/91	10	ANSWER to Complaint and COUNTER-CLAIM by Wells Electronic Inc against Wayne K Pfaff. (3) (cxb) [Entry date 10/03/91]
9/26/91	11	PLAINTIFF'S REPLY/ANSWER by Wayne K Pfaff to [10-2] counter claim. (3) (cxb) [Entry date 10/03/91]
10/3/91	12	STATUS REPORT by Wayne K Pfaff, Wells Electronic Inc. (2) (cxb) [Entry date 10/10/91]
10/7/91	13	SCHEDULING ORDER setting Non Jury Trial set during weeks of 6/15/92 and 6/22/92; Discovery cutoff 4/13/92; Joining of parties on 1/6/92; Amending of Pleadings on 3/2/91; Deadline for filing of dispositive motions must be filed not later than 60 days before trial; See Order for specifics. (signed by Judge Sanders) (3) cc to cnsl 10/7/91 (cxb) [Entry date 10/10/91]
1/6/92	14	Report Regarding Status of Settlement Negotiations by Wells Electronic Inc. (3) (cxb) [Entry date 01/07/92]

1/7/92	15	SUPPLEMENTAL REPORT REGARDING STATUS OF SETTLEMENT NEGOTIATIONS by Wells Electronic Inc. (2) (cxb) [Entry date 01/08/92]
1/9/92	16	REPORT REGARDING STATUS OF SETTLEMENT NEGOTIATIONS by Wayne K Pfaff. (3) (cxb) [Entry date 01/10/92]
1/10/92	17	ORDER directing counsel to file a joint report 3/16/92, regarding the status of settlement negotiations (signed by HBS cc to cnsl 1/10/92 (1).) (amy) [Entry date 01/13/92]
3/3/92	18	ORDER ON DISSEMINATION OF PROPRIETARY MATERIAL, for protective order (signed by HBS cc to cnsl 3/3/92 (6).) (amy) [Entry date 03/06/92]
3/11/92	19	JOINT REPORT REGARDING STATUS OF SETTLEMENT NEGOTIATIONS by Wells Electronic Inc, Wayne K Pfaff. (2) (cxb) [Entry date 03/13/92]
3/11/92	20	MOTION by Wells Electronic Inc for bifurcation of the liability and damage issues (2) (cxb) [Entry date 03/13/92]
3/11/92	21	MEMORANDUM by Wells Electronic Inc in support of [20-1] motion for bifurcation of the liability and damage issues. (9) (cxb) [Entry date 03/13/92]
3/13/92	22	ORDER . . . counsel are directed to file with the Court 4/27/92, a joint report evaluating the prospects for settlement. This case remains on its current Scheduling Order, with trial scheduled for the weeks of 6/15-22/92 (signed by HBS)

Copies to counsel: 3/13/92 Page(s) 1 (amy) [Entry date 03/17/92]

3/30/92 23 BRIEF/MEMORANDUM by Wayne K Pfaff in opposition to [20-1] motion for bifurcation of the liability and damage issues. (4) (cxb) [Entry date 04/03/92]

4/7/92 24 UNOPPOSED MOTION by Wells Electronic Inc for leave to file Reply, (to pltf's opposition to deft's mtn for bifurcate) (3) (cxb) [Entry date 04/09/92]

4/7/92 25 ORDER granting [24-1] motion for leave to file Reply, (to pltf's opposition to deft's mtn for bifurcate). Ordered that the Clerk is directed to file "Deft's Reply to Pltf's Brief in Opposition to Deft's Mtn to Bifurcate." (signed by Judge BS) Copies to counsel: 4/7/92 Page(s) 1 (cxb) [Entry date 04/10/92]

4/7/92 26 REPLY by Wells Electronic Inc to response to [20-1] motion for bifurcation of the liability and damage issues. (2) (cxb) [Entry date 04/10/92]

4/15/92 27 ORDER granting [20-1] motion for bifurcation of the liability and damage issues. Deft's mtn to bifurcate is GRANTED, and liability will be determined prior to damages. See Order for specifics. (signed by Judge BS) Copies to counsel: 4/15/92 Page(s) 2 (cxb) [Entry date 04/17/92]

4/15/92 28 MOTION by Wells Electronic Inc for summary judgment (3) (cxb) [Entry date 04/17/92]

4/15/92 29 BRIEF/MEMORANDUM by Wells Electronic Inc in support of [28-1] motion for summary judgment. (15+) (cxb) [Entry date 04/17/92]

4/15/92 30 REQUEST/MOTION by Wells Electronic Inc for special hearing/for oral argument (3) (cxb) [Entry date 04/17/92]

4/15/92 31 Proposed findings of fact and conclusions of law by Wells Electronic Inc. (9) (cxb) [Entry date 04/17/92]

4/27/92 32 JOINT STATUS REPORT OF SETTLEMENT NEGOTIATIONS by Wells Electronic Inc, Wayne K Pfaff. (2) (cxb) [Entry date 04/28/92]

5/1/92 33 BRIEF/MEMORANDUM by Wayne K Pfaff in opposition to [28-1] motion for summary judgment. (15+) (cxb) [Entry date 05/04/92]

5/7/92 34 PRIOR ART NOTICE PURSUANT TO 35 U.S.C. SECTION 282 by Wells Electronic Inc. (5) (cxb) [Entry date 05/11/92]

5/11/92 35 MOTION by Wells Electronic Inc for leave to file Reply, (to pltf's brief in opposition to deft's mtn for s/j) (2) (otj) (NOD) (cxb) [Entry date 05/11/92]

5/11/92 36 ORDER granting [35-1] motion for leave to file Reply, (to pltf's brief in opposition to deft's mtn for s/j). (signed by Judge HBS) Copies to counsel: 5/12/92 Page(s) 1 (cxb) [Entry date 05/14/92]

5/11/92 37 REPLY by Wells Electronic Inc to response to [28-1] motion for summary judgment. (3) (cxb) [Entry date 05/14/92]

5/21/92	38	NOTICE of attorney appearance for Wayne K Pfaff, Wayne K Pfaff by Marvin R Thomas. (2) (cxb) [Entry date 05/22/92]
6/1/92	39	Proposed findings of fact and conclusions of law by Wayne K Pfaff. (15+) (cxb) [Entry date 06/03/92]
6/1/92	40	JOINT STATUS REPORT OF SETTLEMENT NEGOTIATIONS by Wells Electronic Inc, Wayne K Pfaff. (1) (cxb) [Entry date 06/03/92]
6/1/92	41	Witness list AND DESIGNATION OF DEPOSITION TRANSCRIPTS by Wayne K Pfaff. (3) (cxb) [Entry date 06/03/92]
6/1/92	42	PROPOSED TRIAL Exhibit list by Wells Electronic Inc. (10) (cxb) [Entry date 06/03/92]
6/1/92	43	TRIAL Exhibit list by Wayne K Pfaff. (4) (cxb) [Entry date 06/03/92]
6/1/92	44	TRIAL BRIEF by Wayne K Pfaff. (15+) (cxb) [Entry date 06/03/92]
6/1/92	45	JOINT MOTION for consideration of stipulated evidence by Wells Electronic Inc, Wayne K Pfaff. (15+) (Under Separate Cover) (cxb) [Entry date 06/03/92]
6/1/92	46	Order Unfiling Pleading by defendant Wells Electronic Inc Re: Trial Brief. Copies to counsel: 6/1/92 (signed by Judge Barefoot Sanders) Page(s) 1 (cxb) [Entry date 06/03/92]
6/1/92	47	Order Unfiling Pleading by defendant Wells Electronic Inc Re: Proposed Witness List. Copies to counsel: 6/1/92 (signed by Judge Barefoot Sanders) Page(s) 1 (cxb) [Entry date 06/03/92]

6/1/92	48	Order Unfiling Pleading by defendant Wells Electronic Inc Re: Proposed Findings of Fact & Conclusion of Law. Copies to counsel: 6/1/92 (signed by Judge Barefoot Sanders) Page(s) 1 (cxb) [Entry date 06/03/92]
6/2/92	49	PRETRIAL ORDER filed (signed by Judge HBS) Copies to counsel: 6/2/92 Page(s): 6 (cxb) [Entry date 06/04/92]
6/2/92	53	MEMORANDUM OPINION AND ORDER denying [30-1] motion for special hearing/for oral argument . . . denied as moot, granting [28-1] motion for summary judgment . . . this case is DISMISSED. (signed by HBS) Copies to counsel: 6/2/92 Page(s): 10 (bss) [Entry date 06/09/92]
6/2/92	--	Case closed (bss) [Entry date 06/09/92]
6/3/92	50	Witness list AND DESIGNATION OF DEPOSITION TRANSCRIPTS (AMENDED) by Wayne K Pfaff. (3) (cxb) [Entry date 06/05/92]
6/4/92	51	REQUEST/MOTION by Wells Electronic Inc for refiling of deft's proposed witness list, trial brief, and proposed findings of facts and conclusions of law (6) (cxb) [Entry date 06/05/92]
6/5/92	52	ORDER granting [51-1] motion for refiling of deft's proposed witness list, trial brief, and proposed findings of facts and conclusions of law, and are refiled effective 6/1/92. (signed by Judge HBS)

		Copies to counsel: 6/5/92 Page(s) 1 (cxb) [Entry date 06/08/92]
6/12/92	54	MOTION with memorandum in support by Wayne K Pfaff for reconsideration of [53-1] order (15+) (NOD) (cxb) [Entry date 06/16/92]
6/12/92	55	REQUEST/MOTION by Wayne K Pfaff for special hearing/for oral argument (3) (cxb) [Entry date 06/16/92]
6/17/92	56	ORDER denying [55-1] motion for special hearing/for oral argument, denying [54-1] motion for reconsideration of [53-1] order. (signed by Judge HBS) Copies to Counsel: 6/17/92 Page(s) 1 (cxb) [Entry date 06/19/92]
6/19/92	--	Notified Commissioner of Patents & Trademarks of case closing. (grj)
7/1/92	57	NOTICE OF APPEAL by Wayne K Pfaff, plaintiff, to U.S. Court of Appeals for the Federal Circuit from the Memorandum Opinion and Order entered 6/2/92 & the Order entered 6/17/92, denying Plaintiff's Motion for Reconsideration of Dft's Motion for Summary Judgment. (2) Fee payment amount: $105.00 Receipt # 45927 Appeal record due on 7/16/92 (klm) [Entry date 07/02/92] [Edit date 07/06/92]
7/6/92	--	Notice of appeal and certified copy of docket to Federal Circuit Court of Appeals: [57-1] appeal (klm) [Entry date 07/02/92] [Edit date 07/06/92]
7/6/92	58	STIPULATION of dismissal by both parties of that portion of the Defendant's

		counterclaim relating to patent invalidity (1) (mjl) [Entry date 07/09/92] [Edit date 07/09/92]
7/7/92	59	ORDER . . . granting [58-1] dismissal stipulation as to deft's counterclaim for patent invalidity (signed by HBS) Copies to counsel: 7/7/92 Page(s) 1 (ldm) [Entry date 07/09/92]
7/13/92	60	NOTICE of Docketing from U.S. Court of Appeals for the Federal Circuit (2) cc to Judge & CTCRD (klm)
9/30/93	61	ORDER OF USCA (certified copy) Re: [57-1] appeal; case is remand for further proceedings. Each party to bear its own costs. REVERSED AND REMANDED. (17 PAGES) cc to Judge Opinion Filed and Judgment entered Sept 10, 1993. (mer) [Entry date 10/05/93]
9/30/93	--	Case reopened (lat) [Entry date 10/12/93]
10/8/93	62	JUDGMENT OF USCA (certified copy) Re: [57-1] appeal Issued as mandate on 10/1/93 cause been heard and considered, it is ORDERED AND ADJUDGED; . . . REVERSED AND REMANDED. (1 page) cc to Judge. (mer) [Entry date 10/12/93] [Edit date 10/25/93]
10/8/93	63	ORDER OF USCA (certified copy) Re: . . . ct reverse the dist. ct summary jgm because it improperly resolved a genuine issue of material fact, and we remand for further proceedings. Costs each pty to bear own costs. (15 pages) cc

		to judge. (mer) [Entry date 10/12/93] [Entry date 10/25/93]
10/13/93	64	STATUS REPORT ORDER. Joint Status report due on 11/2/93 (signed by HBS) Copies to counsel: 10/13/93 Page(s): 2 (lat)
11/2/93	65	JOINT STATUS REPORT by Wells Electronic Inc, Wayne K Pfaff (4) (lat) [Entry date 11/03/93]
11/5/93	66	ORDER, SET status conference for 2:00 11/23/93 (signed by HBS) Copies to counsel: 11/8/93 Page(s) 1 (lat) [Entry date 11/09/93]
11/23/93	67	Proposed Witness list by Wells Electronic Inc (3) (lat) [Entry date 11/24/93]
11/23/93	68	TRIAL BRIEF by Wells Electronic Inc (15+) (lat) [Entry date 11/24/93]
11/23/93	69	Proposed Exhibit list by Wells Electronic Inc (11) (lat) [Entry date 11/24/93]
11/23/93	70	Proposed findings of fact and conclusions of law. by Wells Electronic Inc (15+) (lat) [Entry date 11/24/93]
11/23/93	71	SCHEDULING ORDER setting Bench trial set for 2/22/94; Discovery cutoff 12:00 1/25/94; Pretrial materials due 12:00 1/25/94 . . . see order for specifics (signed by HBS) Copies to counsel: 11/24/93 Page(s): 2 (lat) [Entry date 11/26/93]
11/24/93	72	ORDER referring case to Mediation; Bill H Brister ADR provider; SET status report due 01/10/94 Type of ADR: Mediation Requested By: Joint . . . see

		order for specifics (Signed by HBS) Copies to counsel: 11/24/93 Page(s): 3 (lat) [Entry date 11/26/93] [Edit date 12/30/93]
12/13/93	73	MOTION by counter-defendant Wayne K Pfaff, plaintiff Wayne K Pfaff for Marvin Thomas to withdraw as attorney (1) (lat) [Entry date 12/14/93]
12/15/93	74	ORDER granting [73-1] motion for Marvin Thomas to withdraw as attorney (Terminated attorney Marvin R Thomas for Wayne K Pfaff, attorney Marvin R Thomas for Wayne K Pfaff (signed by HBS) Copies to counsel: 12/15/93 Page(s) 1 (lat) [Entry date 12/17/93]
12/21/93	75	Second Amended Witness list by Wayne K Pfaff and designation of deposition transcripts (3) (lat) [Entry date 12/27/93]
1/11/94	76	STATUS REPORT ORDER. Joint Status report due on 1/19/94 . . . see order for specifics (signed by HBS) Copies to counsel: HBS Page(s): 2 (lat) [Entry date 01/12/94]
1/19/94	77	JOINT STATUS REPORT by Wells Electronic Inc, Wayne K Pfaff (4) (lat) [Entry date 01/21/94]
1/28/94	78	Letter MOTION to reschedule trial setting by Wells Electronic Inc (1) (lat) [Entry date 02/01/94]
1/31/94	79	ORDER granting [78-1] motion to reschedule trial setting . . . accordingly the 2/22-28, 1994 trial setting is vacated and the case will be rescheduled for trial

(signed by HBS) Copies to counsel: 1/31/94 Page(s) 1 (lat) [Entry date 02/01/94]

3/2/94	80	ORDER . . . that each party shall submit a list containing the name, address and telephone number of 6 licensed patent law practitioners any of whom would be considered acceptable to the submitting party as a Special Master by 3/28/94 at 12:00 . . . if the names of one or more persons appears on both lists the court shall select as Special Master a person whose name appears on both lists . . . if no name appears on both lists the court shall select a licensed patent law practitioner to be Special Master (signed by HBS) Copies to counsel: 3/2/94 Page(s) 2 (lat) [Entry date 03/04/94]
03/28/94	81	MOTION by plaintiff Wayne K Pfaff for proposed special master(15+) (jac) [Entry date 03/29/94]
3/29/94	82	STATUS REPORT/list of acceptable licensed patent law practitioners for Special Master by defendant Wells Electronic Inc (2) (cpm) [Entry date 03/31/94]
3/29/94	83	ORDER appointing Edward G Fiorito as Special Master . . . The compensation of the Special Master shall be allocated between the parties as thc Court may direct . . . The Special Master is directed to conduct hearings and take other actions necessary to facilitate the filing of his Report . . . The Special Master is directed to file a report on the status of proceedings by noon 5/16/94 (signed by

BS) Copies to counsel: 3/30/94 Page(s) 2 (cpm) [Entry date 03/31/94]

3/30/94	84	Letter from the Honorable Barefoot Sanders notifying Edward G Fiorito that he has been appointed Special Master (1) (cpm) [Entry date 03/31/94]
5/12/94	85	STATUS REPORT regarding proceedings by special master Edward G Fiorito (9) (jac) [Entry date 05/13/94]
6/29/94	86	Witness list and Designation of Deposition Transcripts (Third Amended) by plaintiff Wayne K Pfaff (4) (jac) [Entry date 06/30/94]
6/29/94	87	Proposed findings of fact and conclusions of law by plaintiff Wayne K Pfaff (15) (jac) [Entry date 06/30/94]
7/5/94	88	Addendum to Proposed Trial Exhibit list by defendant Wells Electronic Inc (3) (jac) [Entry date 07/07/94]
7/5/94	89	SUPPLEMENTAL TRIAL BRIEF for Infringement Portion by plaintiff Wayne K Pfaff (15+) (jac) [Entry date 07/07/94]
9/12/94	90	POST TRIAL BRIEF by plaintiff Wayne K Pfaff in support of judgment for infringement. (15+) (under separate cover) (jrb) [Entry date 09/13/94]
9/19/94	91	RESPONSE by plaintiff Wayne K Pfaff in opposition to [90-1] brief (12) (svc) [Entry date 09/21/94]
9/19/94	92	Supplemental Proposed findings of fact and conclusions of law. by plaintiff Wayne K Pfaff (7) (svc) [Entry date 09/21/94]

9/19/94	93	TRIAL BRIEF by defendant Wells Electronic Inc (15+) (svc) [Entry date 09/21/94]
9/26/94	94	MOTION by defendant Wells Electronic Inc to strike [91-1] opposition response (NOD) (1) (jrb) [Entry date 09/27/94]
9/26/94	94	MOTION/REQUEST by defendant Wells Electronic Inc for consideration of sanctions (NOD) (1) (jrb) [Entry date 09/27/94]
9/26/94	95	MEMORANDUM by defendant Wells Electronic Inc in support of [94-1] motion for consideration of sanctions, [94-1] motion to strike [91-1] opposition response (4) (jrb) [Entry date 09/27/94]
9/27/94	96	MOTION by defendant Wells Electronic Inc to strike [91-1] opposition response, and for consideration of sanctions (NOD) (1) (jrb) [Entry date 09/28/94]
9/27/94	97	MEMORANDUM by defendant Wells Electronic Inc in support of [96-1] motion to strike [91-1] opposition response, [96-2] motion for consideration of sanctions (8) (jrb) [Entry date 09/28/94]
10/5/94	98	RESPONSE by plaintiff Wayne K Pfaff to [96-1] motion to strike [91-1] opposition response (4) (mer) [Entry date 10/07/94]
10/20/94	99	REPLY by defendant Wells Electronic Inc to response to [96-1] motion to strike [91-1] opposition response, [96-2] motion for consideration of sanctions, [94-1] motion for consideration of sanctions,

		[94-1] motion to strike [91-1] opposition response (1) (jrb) [Entry date 10/24/94]
10/25/94	100	Proposed findings of fact and conclusions of law. by special master Edward G Fiorito (15+) (jrb) [Entry date 10/27/94]
12/5/94	101	Validity Summary of by defendant Wells Electronic Inc (8) (jrb) [Entry date 12/06/94]
12/12/94	102	ORDER granting [96-1] motion to strike [91-1] opposition response, granting [94-1] motion to strike [91-1] opposition response (signed by EGF) Copies to counsel: 12/13/94 Page(s) 2 (jrb) [Entry date 12/13/94]
1/17/95	103	MOTION by defendant Wells Electronic Inc to reinstate Defendant's counterclaim (2) (jrb) [Entry date 01/19/95]
1/17/95	104	MOTION by defendant Wells Electronic Inc to mend pleadings to specifically include 35 USC Section 112 defenses as a counterclaim (2) (jrb) [Entry date 01/19/95]
1/19/95	--	Address change form sent to James D Hall Baker and Daniels, 205 W Jefferson Blvd. #250, South Bend, Indiana 46601 (1) (jrb)
1/26/95	105	RESPONSE by plaintiff Wayne K Pfaff in opposition to [104-1] motion to mend pleadings to specifically include 35 USC Section 112 defenses as a counterclaim, [103-1] motion to reinstate Defendant's counterclaim (9) (jrb) [Entry date 01/27/95]

2/28/95	106	Letter with attachments from James D Hall in re: admissibility to the dft's exhibit ALA as prior art. (15+) (jrb) [Entry date 03/01/95]
3/2/95	107	ORDER granting [104-1] motion to mend pleadings to specifically include 35 USC Section 112 defenses as a counterclaim, granting [103-1] motion to reinstate Defendant's counterclaim . . . the dft's counterclaim regarding patent invalidity and non-infringement filed with its answer is hereby ordered reinstated; and the dft's amended answer to pltff's original answer . . . is hereby ordered entered. (signed by EGF) Copies to counsel: 3/3/95 Page(s) 2 (jrb) [Entry date 03/06/95]
3/2/95	108	Draft Report and Proposed findings of fact and conclusions of law recommended by special master Edward G Fiorito re: patent infringement and validity. (15+) (jrb) [Entry date 03/07/95]
3/2/95	109	AMENDED ANSWER to Complaint by defendant Wells Electronic Inc: amends [10-1] answer (3) (jrb) [Entry date 03/09/95]
03/8/95	110	ORDER SETTING TIME FOR COMMENTS ON DRAFT REPORT BY SPECIAL MASTER . . . must be filed with the Clerk on or before 4/3/95. See order for specifics. (signed by EGF) Copies to counsel: 3/10/95 Page(s) 1 (jrb) [Entry date 03/10/95]
3/27/95	111	Copies of a very recent Fed Cir Case not yet in the PQ Advance sheet, Comair

		Rotron, Inc vs Nippon Densan Corporation and Nidec Corporation, 93-1397 by special master Edward G Fiorito (15) (jrb) [Entry date 03/29/95]
4/3/95	112	Comments by defendant Wells Electronic Inc on draft report regarding findings of fact and conclusions of laws recommended by the special master. (15+) (jrb) [Entry date 04/04/95]
4/3/95	113	Suggestions regarding draft report and findings of fact and conclusions of law recommended by Special Master re: Patent Infringement and Validity by plaintiff Wayne K Pfaff (15+) (jrb) [Entry date 04/06/95]
5/10/95	114	Third Draft Report and Findings of Fact and Conclusions of Law recommended by special master Edward G Fiorito re: Patent Infringement and validity. (15+) (jrb) [Entry date 05/11/95]
5/17/95	115	MOTION by defendant Wells Electronic Inc to extend/enlargement of time to respond to draft report and findings of fact and conclusions of law recommended by special master re: patent infringement and validity (2) (jrb) [Entry date 05/18/95]
5/17/95	116	ORDER setting Time for comments on the third draft report of the special master . . . due on or before June 1, 1995. (signed by Edward G Fioriti) Copies to counsel: 5/22/95 Page(s) 1 (jrb) [Entry date 05/23/95]
6/1/95	117	Selected comments regarding second draft report concerning findings of fact

and conclusions of law recommended by the special master by defendant Wells Electronic Inc (4) (jrb) [Entry date 06/07/95]

6/1/95 118 MOTION by defendant Wells Electronic Inc to submit into evidence and to make part of the record the full English translation of previously admitted foreign reference (14) (jrb) [Entry date 06/07/95]

6/1/95 119 MEMORANDUM by defendant Wells Electronic Inc in support of [118-1] motion to submit into evidence and to make part of the record the full English translation of previously admitted foreign reference (6) (jrb) [Entry date 06/07/95]

6/7/95 -- Letter to James D Hall in re: address change. Sent to 205 W Jefferson Blvd., Suite 250, South Bend, Indiana 46601 (1) (jrb)

6/16/95 120 RESPONSE by Wayne K Pfaff to [118-1] motion to submit into evidence and to make part of the record the full English translation of previously admitted foreign reference (11) (ldm) [Entry date 06/21/95]

6/21/95 121 REPLY by defendant Wells Electronic Inc to response to [118-1] motion to submit into evidence and to make part of the record the full English translation of previously admitted foreign reference (7) (jac) [Entry date 06/22/95]

6/27/95 122 MOTION with memorandum in support by plaintiff Wayne K Pfaff to strike

[121-1] response reply (4) (NOD) (jrb) [Entry date 06/28/95]

7/5/95 -- Placed 2 boxes of plaintiff's and defendant's exhibits down the hall in sealed exhibit room. (klm)

7/5/95 123 ORDER granting [118-1] motion to submit into evidence and to make part of the record the full english translation of previously admitted foreign reference (signed by Edward G Fiorito) Copies to counsel: 7/5/95 Page(s) 1 (jrb) [Entry date 07/10/95]

7/5/95 124 Final Report and FINDINGS OF FACT AND CONCLUSIONS OF LAW recommended by the Special Master. See document for Specifics. (signed by Edward G Fiorito) Copies to counsel: 7/5/95 Page(s): 15+ (jrb) [Entry date 07/10/95]

7/12/95 125 JOINT MOTION to extend time for serving written objections by defendant Wells Electronic Inc, plaintiff Wayne K Pfaff (2) (jrb) [Entry date 07/14/95]

7/28/95 126 RESPONSE by defendant Wells Electronic Inc in opposition to [124-1] findings of fact order (15+) (jrb) [Entry date 07/31/95]

7/31/95 127 MOTION by plaintiff Wayne K Pfaff to amend [124-1] findings of fact order and to adopt the amended report (15+) (jrb) [Entry date 08/01/95] [Edit date 08/02/95]

7/31/95 128 MEMORANDUM by plaintiff Wayne K Pfaff in support of [127-1] motion to amend [124-1] findings of fact order and

to adopt the amended report (15+) (jrb) [Entry date 08/01/95] [Edit date 08/02/95]

7/31/95 129 RESPONSE by plaintiff Wayne K Pfaff in opposition to [124-1] findings of fact order (5) (jrb) [Entry date 08/01/95]

8/3/95 130 RESPONSE by defendant Wells Electronic Inc in opposition to [124-1] findings of fact order (2) (NOD) (jrb)

8/3/95 130 MOTION by defendant Wells Electronic Inc for action upon Special Master's Report (NOD) (2) (jrb)

8/8/95 131 ORDER . . . the Court will conduct a hrg at 2:00 on 8/23/95 on the parties obj to the Final Report and Findings of Fact and Conclusions of Law recommended by the Special Master filed 7/5/95. (signed by HBS) Copies to counsel: 8/8/95 Page(s) (jrb) [Entry date 08/11/95]

8/14/95 132 RESPONSE by plaintiff Wayne K Pfaff in opposition to [130-1] opposition response of dft Wells Elec., to the Final Report and Findings of Fact and Conclusions of Law Recommended by Special Master (15+) (jyg) [Entry date 08/15/95]

8/21/95 133 MOTION by defendant Wells Electronic Inc for David R Melton to appear pro hac vice (NOD) (3) (jrb) [Entry date 08/23/95]

8/21/95 134 ORDER granting [133-1] motion for David R Melton to appear pro hac vice (signed by HBS) Copies to counsel:

8/22/95 Page(s) 1 (jrb) [Entry date 08/23/95]

8/22/95 135 RESPONSE by defendant Wells Electronic Inc in opposition to [132-1] opposition response (15+) (jrb) [Entry date 08/23/95]

8/23/95 137 Minute order: Hearing on Objections to Final Report of Special Master. Held before Judge Barefoot Sanders Court Reporter: Janet Burden (klm) [Entry date 09/12/95]

9/7/95 136 NOTICE of change of law firm by atty for plaintiff Wayne K Pfaff (2) (jrb) [Entry date 09/11/95]

10/19/95 138 Proposed findings of fact and conclusions of law. by special master Edward G Fiorito (108) (cjb) [Entry date 10/20/95]

10/25/95 139 ORDER . . . Finding of fact and conclusions of law of special master Edward Fiorito are adopted as the finding of the court. Dft is directed to submit by noon 11-3-95 a proposed jgm. (signed by HBS) Copies to counsel: 10-25-95 Page(s) 1 (svc) [Entry date 10/26/95]

11/3/95 140 MOTION by plaintiff Wayne K Pfaff for entry of judgment (2) (svc) [Entry date 11/06/95]

11/3/95 141 NOTICE of submission of a proposed final judgment by plaintiff Wayne K Pfaff (2) (svc) [Entry date 11/06/95]

11/8/95 142 ORDER . . . Proposed judgment must be filed by 12:00 11-20-95; Brief in support of request for permanent injunction by

11-20-95 & dft Wells must respond by noon 12-1-95. See order for specifics. (signed by HBS) Copies to counsel: 11-8-95 Page(s) 2 (svc)

11/9/95 143 OBJECTIONS of Dft's proposed final judgment and MOTION with memorandum in support by plaintiff Wayne K Pfaff for entry of judgment and injunction (4) (svc) [Entry date 11/13/95]

11/20/95 144 MOTION with memorandum in support by counter-defendant Wayne K Pfaff for permanent injunction (5) (svc) [Entry date 11/21/95]

12/1/95 145 MEMORANDUM by defendant Wells Electronic Inc in opposition to [144-1] motion for permanent injunction (15+) (lch) [Entry date 12/05/95]

12/15/95 146 JUDGMENT ON LIABILITY . . . Court enters judgment on issue of liability (see order for specifics on claims). The bifurcated issue of damages is stayed pending disposition of all appeals re issues of infringement and validity. (signed by HBS) Copies to counsel: 12/18/95 Page(s): 2 (ldm) [Entry date 12/18/95]

12/15/95 147 DECREE OF INJUNCTION ORDER granting [144-1] motion for permanent injunction . . . ordered that deft Wells Electronics be enjoined and restrained from making, using or selling any device or apparatus defined by Claim 7, 10, 11 or 19 of US Letters Patent No. 4,491,377; from making, using or selling any socket device or apparatus which incorporates,

uses, or includes contact pins arranged in 4 sides of a cavity shown in Exhibits A, B, C, D, E or F attached; from making, using or selling any socket device or similar apparatus which embodies, uses or includes the general configuration of any of the sockets previously made by deft and identified as Wells Model No. 647, No. 653, No. 667 and No. 668 which have contact pins arranged on 4 sides of a cavity defined by such contact pins. (signed by HBS) Copies to counsel: 12/18/95 Page(s) 8 (ldm) [Entry date 12/18/95]

12/15/95 148 ORDER DIRECTING ADMINISTRATIVE CLOSURE (signed by HBS) Copies to counsel: 12/18/95 Page(s): 1 (ldm) [Entry date 12/18/95]

12/28/95 149 MOTION with memorandum in support by plaintiff Wayne K Pfaff to amend [146-1] judgment order (4) (mm) [Edit date 12/28/95]

12/29/95 150 NOTICE OF APPEAL by Wells Electronic Inc, dft, to USCA for the Federal Circuit, from the final judgment on liability as it relates to the district court's findings regarding U.S. Patent 4,491,377 that Claims 7, 10, 11 and 19 are not invalid and that Claims 7, 10 and 11 are infringer, entered on 12/18/95. (1) Fee payment amount: 105.00 Receipt # 77434 (bss)

12/29/95 -- Notice of appeal and certified copy of docket to USCA for the Federal Circuit [150-1] appeal (bss)

12/29/95 151 ORDER granting [149-1] motion to amend [146-1] judgment on liability order (signed by HBS) Copies to counsel: 12/29/95 1 (ldm) [Entry date 01/02/96]

12/29/95 152 FINAL JUDGMENT ON LIABILITY . . . after adoption on 10/25/95 of the Report and Findings of Fact and Conclusions of law of the Special Master, the Court directs entry of the following JUDGMENT on the issue of liability: 1. Claims 1 & 6 of Patent No. 4,491,377 are invalid, and not infringed by any of the Wells socket devices. 2. Claims 7, 10, 11 & 19 of Patent No. 4,491,377 are not invalid. 3. The Wells Model No. 647 device infringes Claims 7 & 10, but does not infringe Claims 11 or 19. 4. The Wells Model No. 653 device infringes Claims 7, 10 and 11, but does not infringe Claim 19. 5. The Wells Model No. 667 device infringes Claims 7 & 10, but does not infringe Claims 11 or 19. 6. The Wells Model No. 668 device as shown in pltf's exhibit 179 infringes Claims 7 & 10, but does not infringe Claims 11 or 19. The remaining embodiments of the Wells Model No. 668 devices do not infringe Claims 7, 10, 11, or 19. 7. The Wells Model Nos. 642, 648, 649, 652 and 663 devices do not infringe Claims 7, 10, 11 or 19. The bifurcated issue of damages is stayed pending disposition of all appeals regarding issues of infringement and validity. (signed by HBS) Copies to counsel: 12/29/95 Page(s): 2 (ldm) [Entry date 01/02/96]

1/5/96 153 NOTICE OF APPEAL by Wayne K Pfaff, pla, to USCA for the Federal Circuit, from those portions of the final judgment on liability entered 12/29/95 . . . (2) Fee payment amount: no fee paid (bss) [Entry date 01/09/96]

01/9/96 -- Notice of appeal and certified copy of docket to USCA for the Federal Circuit: [153-1] appeal (bss)

1/11/96 -- USCA appeal fees receive $ 105.00 (bss) [Entry date 01/12/96]

1/16/96 154 AMENDED NOTICE OF APPEAL by Wells Electronic Inc., dft, to USCA for the Federal Circuit from the procedurally amended final judgment on liability as it relates to the district court's findings regarding U.S. Patent 4,491,377 that claims 7, 10, 11 and 19 are not invalid and that claims 7, 10 and 11 are infringed, entered on 12/29/95. (1) Fee payment amount: $5.00 telephoned atty and advised him that the $100 docketing fee was required. Receipt #77904 (bss) [Entry date 01/17/96]

1/17/96 -- Notice of appeal and certified copy of docket to USCA for the Federal Circuit [154-1] appeal (bss)

1/18/96 -- USCA appeal fees received (bss) [Entry date 01/22/96]

1/24/96 -- USCA for the Federal Circuit Case Number, 96-1150 Re: [150-1] appeal (bss)

1/24/96 155 NOTICE of Docketing by USCA for the Federal circuit. (3) (bss)

2/26/96 156 STIPULATED MOTION by Wells Electronic Inc, Wayne K Pfaff for filing trial transcript (2) (bss) [Entry date 02/29/96]

2/26/96 157 ORDER granting [156-1] motion for filing trial transcript (signed by Judge Sanders) Copies to counsel: 2/26/96 Page(s) 1 (bss) [Entry date 02/29/96]

2/26/96 158 COPY OF TRANSCRIPT (STATEMENT OF FACTS) filed [154-1] appeal, [153-1] appeal, [150-1] appeal for dates of 7/5/94 – Vol I – Ct. Reporter – Bradford Court Reporting (UNDER SEPARATE COVER) (bss) [Entry date 02/29/96]

2/26/96 159 COPY OF TRANSCRIPT (STATEMENT OF FACTS) filed [154-1] appeal, [153-1] appeal, [150-1] appeal for dates of 7/6/94 – Vol II – Ct. Reporter – Bradford Court Reporting (UNDER SEPARATE COVER) (bss) [Entry date 02/29/96]

2/26/96 160 COPY OF TRANSCRIPT (STATEMENT OF FACTS) filed [154-1] appeal, [153-1] appeal, [150-1] appeal for dates of 7/7/94 – Vol III – Ct. Reporter – Bradford Court Reporting – UNDER SEPARATE COVER (bss) [Entry date 02/29/96]

2/26/96 161 COPY OF TRANSCRIPT (STATEMENT OF FACTS) filed [154-1] appeal, [153-1] appeal, [150-1] appeal for dates of 7/8/96 – Vol IV – Ct. Reporter – Bradford Court Reporting – UNDER SEPARATE COVER) (bss) [Entry date 02/29/96]

2/26/96 162 COPY OF TRANSCRIPT (STATEMENT OF FACTS) filed [154-1] appeal, [153-1]

appeal, [150-1] appeal for dates of 7/8/94 – Vol V – Ct. Reporter – Bradford Court Reporting – UNDER SEPARATE COVER (bss) [Entry date 02/29/96]

02/26/96 163 COPY OF TRANSCRIPT (STATEMENT OF FACTS) filed [154-1] appeal, [153-1] appeal, [150-1] appeal for dates of 12/8/94 – Vol VI – Ct. Reporter – Bradford Court Reporting – UNDER SEPARATE COVER (bss) [Entry date 02/29/96]

2/26/96 -- JUDGMENT OF USCA (certified copy) Re: [153-1] appeal Issued as mandate on 2/21/96 . . . the appellant having failed to pay the docketing fee . . . ORDERED that the notice of appeal be, and the same hereby is DISMISSED, for failure to prosecute in accordance with the rules. (2) (civil appeals clerk contacted USCA for the Federal Circuit and advised them that the fee had been paid. They requested I send them a new docket sheet and transmittal letter stating the fee had been paid at a later date. This was done) (bss) [Entry date 02/29/96]

3/19/96 165 ORDER OF USCA (certified copy) Re: [154-1] appeal . . . appellant having paid the required filing fee, it is ORDERED that the order of dismissal and the mandate be, and the same hereby are VACATED and RECALLED, and the notice of appeal is REINSTATED. (2) (bss) [Entry date 03/20/96]

3/19/96	--	NOTICE OF APPEAL by Wayne K Pfaff * * * APPEAL IS REINSTATED * * * THIS ENTRY IS BEING MADE TO PUT THE APPEAL BACK ON THE LIST FOR STATISTICAL PURPOSES per order from USCA For the Federal Circuit Fee payment amount: Receipt # (bss) [Entry date 03/20/96]
3/19/96	--	USCA for the Federal Circuit Case Number, 96-1187 Re: [0-1] appeal (bss) [Entry date 03/20/96]
9/12/97	166	ORDER OF USCA for the Federal Circuit . . . AFFIRMED IN PART & REVERSED IN PART See order for specifics (certified copy) Re: [0-1] appeal, [154-1] appeal, [150-1] appeal (18) cc: Judge (ple) [Entry date 09/15/97] [Edit date 09/15/97]
10/17/97	--	ORDER OF UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT . . . UPON CONSIDERATION THEREOF, it is ORDERED that the petition for rehearing be, and the same hereby, is DENIED. The mandate of the court will issue on October 10, 1997. (certified copy) Re: [0-1] appeal (2) cc: Judge (lag)
10/17/97	167	ORDER OF USCA FOR THE FEDERAL CIRCUIT . . . UPON CONSIDERATION THEREOF, it is ORDERED that the petition for rehearing be, and the same hereby is, DENIED. (certified copy) The mandate of the court will issue on October 10, 1997 Re: [0-1] appeal (2) cc: Judge (lag) [Entry date 10/20/97]

10/17/97	168	JUDGMENT OF USCA FOR THE FEDERAL CIRCUIT . . . This CAUSE having been heard and considered, it is ORDER AND ADJUDGED: AFFIRMED-IN-PART and REVERSED-IN-PART (certified copy) Re: [0-1] appeal Issued as mandate on 10/10/97 (1) cc: Judge (lag) [Entry date 10/20/97]
12/3/97	169	IMG STATUS REPORT ORDER. Joint Status report due on 12:00 12/19/97 re: recommendation case selected: 3:91cv1542 ns for the disposition of the remaining issues. (signed by Judge Sanders) Copies to counsel: 12/4/97 Page(s): 1 (jas) [Entry date 12/04/97]
12/15/97	170	STATUS REPORT by plaintiff Wayne K Pfaff (2) (jas)
12/16/97	171	STATUS REPORT by defendant Wells Electronic Inc (2) (jas)

U.S. Court of Appeals for the Federal Circuit Docket For

Title PFAFF V WELLS ELEC INC

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS/DALLAS DIV.
CJ SANDERS

NO. 91-CV-1542-H

FILING DATE July 10, 1992

FILING FEE PAID YES

TERM AND DOCKET NO. 92-1431

DATE	PROCEEDINGS AND ORDERS
July 1, 1992	Notice of appeal filed by Plaintiff in the US district court. (lp)
July 9, 1992	Notice of appeal and certified list, received. (lp)
	COUNSEL FOR THE APPELLANT: Barry L. Grossman
	MOB _X_ BAS ___ _____
	COUNSEL FOR THE APPELLEE: James D. Hall
	MOB _X_ BAS ___ _____
August 7, 1992	Certificate of Interest for the Appellant, filed.
August 10, 1992	Certificate of Interest for the Appellee, filed.
July 10, 1992	Notice of appeal and certified list, docketed. Notice sent to the parties. (lp)

July 29, 1992	Sent rejection letter to James D. Hall, concerning his entry of appearance. (tth)
Sept 8, 1992	BRIEF FOR THE APPELLANT, filed. (MS-9/8/92) (cr)
Oct 19, 1992	BRIEF FOR THE APPELLEE, filed. (MS-10/19/92) (cr)
	1. JOINT STATEMENT OF COMPLIANCE PURSUANT TO RULE 33, FILED: 10/27/92 (EOD 10/28/92) (LP) 92-1431
Nov 5, 1992	REPLY BRIEF FOR APPELLANT, filed. (MS-11/5/92) (cr)
Nov 12, 1992	JOINT APPENDIX, filed. (MS-11/12/92) (cr)
December 2, 1992	2. PANEL OIG on Jan 8 ORAL ARGUMENT CALENDAR LETTER sent to Grossman & Hall (df)
	3. APPELLANT'S LTR TO COURT ADVISING THAT VISUAL AIDS WILL BE USED DURING ORAL ARGUMENT AND REQUESTING THAT (3) EASELS OR STANDS FOR CHARTS BE AVAILABLE IN THE COURT ROOM, (SENT TO PANEL) (MS-01/04/93) RECEIVED: 01/04/93 (EOD 01/07/93) (LP) 92-1431
January 8, 1993	ARGUED. (Plager & Schall, JJ, and Bennett, SJ). (tth)

September 10, 1993 REVERSED AND REMANDED. (Plager, CJ) "JUDGMENT ENTERED" 5 f3d 514 Each party to bear its own costs (sk).

COUNSEL FOR THE APPELLANT

(WAYNE K. PFAFF, Plaintiff)

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8-10-92 (tth)

OF COUNSEL:
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COUNSEL FOR THE APPELLEE

(WELLS ELECTRONIC, INC., Defendant)

JAMES D. HALL
P.O. BOX 420
SOUTH BEND, IN 46624
(219) 234-6091
8-10-92 (tth)

DATE	PROCEEDINGS AND ORDERS
October 1, 1993	ISSUED AS A MANDATE TO THE US DCT/ND/TX. (lp)

U.S. Court of Appeals for the Federal Circuit Docket For

Consolidated w/cross-appeal 96-1187

Title PFAFF V WELLS ELECTRONICS, INC

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF TEXAS (Dallas)
C.J. SANDERS

DOCKET NO. 91-CV-1542

FILING DATE
January 22, 1996

FILING FEE PAID 12/29/95

TERM AND DOCKET NO. 96-1150

DATE	PROCEEDINGS AND ORDERS
January 10, 1996	Motion for Stay of Injunction, received. (cs) COUNSEL FOR THE APPELLANT: James D. Hall MOB ___ BAS ___ _____ COUNSEL FOR THE APPELLEE: Barry L. Grossman MOB _X_ BAS ___ _____
February 2, 1996	Certificate of Interest for the Appellant, filed. Certificate of Interest for the Appellee, filed. 1. Appellant - MOTION FOR STAY OF INJUNCTION. [NPF] (MS-01/05/96) FILED: 01/22/96. REPLY 1 (2) FILED: 01/16/96. ACTION ON

MOTION (4): MOTION GRANTED. BY MOTIONS PANEL. JUDGE: PLAGER. FILED: 01/26/96. (EOD 01/26/96 BY JB) 96-1150

December 29, 1995	Notice of appeal filed by defendant in the district court. (cs)
January 2, 1996	Notice of appeal and certified list, received. (cs)
January 22, 1996	Notice of appeal and certified list, docketed. Notice sent to the parties. (cs)
January 22, 1995	Notice of cross-appeal and certified list, docketed. Cross-appeal consolidated with appeal 96-1187. Notice sent to the parties. (cs)

3. Appellee – MOTION FOR EXPEDITED CONSIDERATION DUE TO DISRUPTION IN INDUSTRY. (MS-01/19/96) FILED: 01/22/96. REPLY 1 (6) FILED: 01/24/96. ACTION ON MOTION (5): MOOT. BY CLERK. FILED: 01/26/96. (EOD 01/31/96 BY LP) 96-1150

7. Cross-Appellant – PFAFF'S MOTION FOR RECONSIDERATION OF ORDER GRANTING STAY. (MS-01/29/96) FILED: 01/30/96. ACTION ON MOTION (9): MOTION FOR RECONSIDERATION DENIED. MOTION TO REQUIRE APPELLEE TO POST BOND DENIED, BY MOTIONS PANEL. JUDGE:

PLAGER. FILED: 04/15/96. (EOD 04/15/96 BY ETW) 96-1150

January 30, 1996	Amended notice of appeal by defendant, filed. (cs)
February 7, 1996	Revised official caption sent to the parties. (cs)
February 21, 1996	Revised official caption sent to the parties. (sh)

COUNSEL FOR THE APPELLANT

(WELLS ELECTRONICS, INC., Defendant)

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1/22/96 (cs)

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COUNSEL FOR THE ~~APPELLEE~~ CROSS-APPELLANT

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9/22/97 (av)

OF COUNSEL:
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Adriana S. Luedke (202) 508-910[illegible]
Bradley C. Wright (202) 508-919[illegible]

DATE	PROCEEDINGS AND ORDERS
	8. NOTICE OF FILING OF TRIAL TRANSCRIPT WITH THE TRIAL COURT. (MS-03/08/96) RECEIVED: 03/11/96 (EOD 03/11/96) (LP) 96-1150
	WELLS ELECTRONICS, INC. [APPELLANT] – BRIEF FOR APPELLANT, WELLS ELECTRONICS, INC. (MS-03/22/96). FILED: 03/22/96. [960513] (EOD 03/26/96 BY SCOTT) 96-1150
	WAYNE K. PFAFF [CROSS-APPELLANT] – BRIEF OF THE PLAINTIFF/CROSS-APPELLANT WAYNE K. PFAFF (MS-05/01/96). RECEIVED: 05/01/96. REJECTED: 05/02/96. CORRECTED BRIEF DUE: 05/16/96. [960793] (EOD 05/02/96 BY TH) 96-1150

	WAYNE K. PFAFF [CROSS-APPELLANT] – CORRECTED BRIEF OF THE PLAINTIFF/CROSS-APPELLANT WAYNE K. PFAFF (MS-05/16/96). CORRECTED BRIEF RECEIVED: 05/16/96. FILED: 05/01/96. [960793] (EOD 05/17/96 BY AW) 96-1150
	9. CROSS-APPELLANT'S CITATION OF SUPPLEMENTAL AUTHORITY. (MERITS PANEL) (MS-05/17/96) RECEIVED: 05/20/96 (EOD 05/20/96) (LP) 96-1150
	WELLS ELECTRONICS, INC. [APPELLANT] – REPLY BRIEF FOR DEFENDANT-APPELLANT WELLS ELECTRONICS, INC. (MS-06/13/96). FILED: 06/13/96. Rule 33 Notice of Settlement issued. [961164] (EOD 06/17/96 BY FXG) 96-1150
	WAYNE PFAFF [CROSS-APPELLANT] – REPLY BRIEF FOR PLAINTIFF/CROSS-APPELLANT WAYNE K. PFAFF (MS-07/01/96). FILED: 07/01/96. [961297] (EOD 07/02/96 BY AW) 96-1150
	Rule 33 Joint Statement. Filed: 07/10/96. 96-1150
	WELLS ELECTRONICS, INC. [APPELLANT] – APPENDIX (2 VOLUMES) (MS-07/11/96). FILED: 07/11/96. [961374] (EOD 07/12/96 BY SPP) 96-1150

July 30, 1996

10. NOTICE OF CALENDARING issued. PANEL 9610f on October 8, 1996.

96-1150 (df)

11. Appellant – UNOPPOSED MOTION FOR LEAVE TO SUPPLEMENT APPENDIX (MS-10/01/96) FILED: 10/02/96 ON CONSENT. ACTION ON MOTION (11): GRANTED. BY MERITS PANEL FILED: 10/07/95. (EOD 10/07/96 BY KSH) 96-1150

October 8, 1996

Submitted after ORAL ARGUMENT by James D. Hall and Barry L. Grossman.

96-1150 (PAM)

(ARCHER, PLAGER and SCHALL)

12. CROSS-APPELLANT'S CITATION OF SUPPLEMENTAL AUTHORITY. (SENT TO PANEL) (MS-10/25/96) RECEIVED: 10/25/96 (EOD 10/28/96) (LP) 96-1150

13. APPELLANT'S RESPONSE TO APPELLEE'S CITATION OF SUPPLEMENTAL AUTHORITY. (SENT TO PANEL) (MS-10/31/96) RECEIVED: 11/01/96 (EOD 11/01/96) (LP) 96-1150

14. CROSS-APPELLANT'S CITATION OF SUPPLEMENTAL AUTHORITY. (SENT TO PANEL) (MS-01/07/97) RECEIVED: 01/10/97 (EOD 01/10/97) (LP) 96-1150

15. APPELLANT'S RESPONSE TO APPELLEE'S CITATION OF SUPPLEMENTAL AUTHORITY. (SENT TO PANEL) (MS-01/15/97) RECEIVED: 01/23/97 (EOD 01/23/97) (LP) 96-1150

16. CROSS-APPELLANT'S CITATION OF SUPPLEMENTAL AUTHORITY. (SENT TO PANEL) (MS-05/13/97) RECEIVED: 05/14/97 (EOD 05/14/97) (LP) 96-1150

AFFIRMED-IN-PART AND REVERSED-IN-PART, PRECEDENTIAL OPINION BY: C.J. ARCHER, JUDGMENT ENTERED: 09/08/97. NO COSTS. OPINION SENT TO PARTIES: 09/08/97. (EOD 09/08/97 BY KSH) 96-1150

CROSS APPELLANT – PETITION FOR REHEARING (MS-09/22/97) FILED: 09/22/97 PETITION CIRCULATED: 09/23/97 PETITION: DENIED ON 10/03/97. (EOD 10/03/97 BY AV) 96-1150

MANDATE ISSUED TO THE DCT: 10/10/97. (EOD 10/10/97 BY MKC) 96-1150

PETITION FOR WRIT OF CERTIORARI FILED 01/05/98, SUPREME COURT #: 97-1130. (EOD 01/14/98 BY JW) 96-1150

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

WAYNE K. PFAFF,	§	
	§	CIVIL ACTION NO.
Plaintiff,	§	3:91CV1542-H
	§	
v.	§	
	§	(Filed Aug. 1, 1991)
WELLS ELECTRONICS, INC.,	§	
	§	
Defendant.	§	

PLAINTIFF'S ORIGINAL COMPLAINT

TO THE HONORABLE JUDGE OF SAID COURT:

Plaintiff complains of Defendant and for cause of action alleges:

1. This is a suit arising under the Patent Laws of the United States and this Court has jurisdiction under United States Code, Title 28, Section 1338.

2. Plaintiff, Wayne K. Pfaff, is an individual residing at 309 Steeplechase, Irving, Texas 75062.

3. Defendant, Wells Electronics, Inc., is a corporation organized and existing by virtue of the laws of the State of Indiana and is doing business in the Northern District of Texas. Service may be had on Defendant by service on its registered agent, Arthur R. Midili, at 1701 So. Main, South Bend, Indiana 46613.

4. On January 1, 1985, United States Letters Patent No. 4,491,377 were duly and legally issued to Wayne K. Pfaff for Mounting Housing for Leadless Chip Carrier. A true and correct copy of said Letters Patent is attached hereto and marked "Exhibit A".

5. Plaintiff is the sole and exclusive owner of all right, title and interest in and to said United States Letters Patent No. 4,491,377 and has held sole and exclusive right and title thereto at all times material to this cause.

6. Since the issuance of United States Letters Patent No. 4,491,377 and within the six years last past, Defendant, without the consent of Plaintiff and with full knowledge of said Letters Patent and of Plaintiff's rights thereunder, has and still is willfully, wantonly and deliberately infringing said United States Letters Patent No. 4,491,377 by making and selling mounting housings for leadless chip carriers which embody and employ the inventions defined by the claims in United States Letters Patent No. 4,491,377 and will continue to do so unless enjoined by this Court.

7. Prior to the filing of this Complaint, Defendant was given notice of its acts of infringement but, notwithstanding such notice, Defendant has nevertheless infringed, is continuing to infringe and threatens to continue infringing said United States Letters Patent No. 4,491,377.

8. Plaintiff has been damaged by Defendant's willful infringement of said United States Letters Patent No. 4,491,377 but is unable to state at this time the amount of damages sustained; and Plaintiff will be further irreparably damaged by Defendant's infringement unless such infringement is enjoined by this Court.

WHEREFORE, Plaintiff prays

(a) That an injunction be entered by this Court enjoining Defendant, its officers, agents, servants,

employees and attorneys, and those in active concert, participation or privity with them, from directly or indirectly making or causing to be made and selling or causing to be sold any apparatus or device which embodies and/or employs the inventions defined by the claims in United States Letters Patent 4,491,377;

(b) That Plaintiff be awarded judgment against Defendant for damages for said infringement and, because of the willful, wanton and deliberate nature of said infringement, that the damages be compounded up to three time the amount found;

(c) That Defendant be ordered to pay the costs of this action and Plaintiff's attorney fees; and

(d) That Plaintiff be granted such other and further relief as the circumstances of the case may require and to this Court seem proper and just.

WAYNE K. PFAFF

by /s/ Jack A. Kanz
Jack A. Kanz
State Bar. No. 11094000
RICHARDS, MEDLOCK
& ANDREWS
4500 Renaissance Tower
1201 Elm Street
Dallas, Texas 75270-2197
(214) 939-4513

ATTORNEYS FOR PLAINTIFF

August 1, 1991

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

WAYNE K. PFAFF, Plaintiff, v. WELLS ELECTRONICS, INC., Defendant.	Civil Action No. 3:91CV1542-H (Filed Sep. 24, 1991)

DEFENDANT'S ANSWER TO PLAINTIFF'S ORIGINAL COMPLAINT

Defendant, Wells Electronics, Inc., hereby answer Plaintiff's original complaint as follows:

1. Defendant admits the allegations of Paragraph 1 of the Plaintiff's original complaint.

2. The Defendant is without sufficient information or knowledge to form a belief with respect to the allegation of Paragraph 2 of the Plaintiff's original complaint, and, therefore, denies such allegations.

3. The Defendant admits the allegations of Paragraph 3 of the Plaintiff's original complaint.

4. The Defendant admits that US Patent 4,491,377 was issued to the Plaintiff but denies that said patent was duly and legally issued as alleged in Paragraph 4 of the Plaintiff's original complaint.

5. The Defendant is without sufficient information or knowledge to form a belief with respect to the allegations of Paragraph 5 of the Plaintiff's original complaint, and, therefore, denies such allegations.

6. The Defendant denies the allegations of Paragraph 6 of the Plaintiff's original complaint.

7. The Defendant denies the allegations of Paragraph 7 of the Plaintiff's original complaint.

8. The Defendant denies the allegations of Paragraph 8 of the Plaintiff's original complaint.

COUNTERCLAIM FOR PATENT INVALIDITY AND NON-INFRINGEMENT

9. This counterclaim is brought under 28 U.S.C. Sections 2201 and 2202 and the Patent Laws of the United States, entitled 35 U.S.C. Sections 1 et seq., for declaratory judgment with respect to the invalidity of U.S. Patent No. 4,491,377, the patent in suite, and Plaintiff's allegations of infringement thereof by Defendant.

10. Plaintiff, in his complaint, has alleged that he is the owner of the patent in suit and has brought this action for infringement thereof against Defendant.

11. U.S. Patent No. 4,491,377 is invalid, void and unenforceable for failure to comply with the statutory requirement of 35 U.S.C. Sections 102 and 103.

WHEREFORE, Defendant prays:

A. That this Court declare U.S. Patent No. 4,491,377 invalid and void and not infringed by any action of the Defendant.

B. That this Court enjoin the Plaintiff and those in privity with him from charging infringement hereof against the Defendant, its distributors of Defendant's device herein charged with infringement or anyone in privity with the Defendant.

C. That the Defendant be awarded its costs and expenses.

D. That the Defendant be awarded reasonable attorney fees.

E. That the Defendant be awarded such other and further relief as this Court may deem just and equitable.

F. That Plaintiff's complaint be dismissed.

Respectfully submitted,

/s/ Richard L. Schwartz
Richard L. Schwartz –
Texas Bar No. 17869500
Glaser, Griggs & Schwartz
Three Lincoln Centre
5430 LBJ Freeway, Suite 1540
Dallas, Texas 75240
(214) 770-2400

and

/s/ James D. Hall
James D. Hall
Oitsch, Knoblock & Hall, P.C.
Post Office Box 420
South Bend, Indiana 46624
(219) 234-6091

Date: 9/20/91

Attorneys for Defendant

CERTIFICATE OF SERVICE

I certify that a copy of this paper was sent by First Class Mail this 20th day of Sept., 1991. postage prepaid, to the last known address of the attorney(s) of record for each of the parties to this action.

/s/ Richard L. Schwartz

ORIGINAL

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

WAYNE K. PFAFF, *Plaintiff,*	§	Civil Action No. 3-91-CV-1542-H
v.	§	
WELLS ELECTRONICS, INC., *Defendant.*	§	(Filed Mar. 2, 1995)

ORDER REINSTATING COUNTERCLAIM AND ENTERING AMENDED ANSWER

Upon motion of the Defendant, and after review of the pleadings, evidence, argument of counsel, Joint Motion for Consideration of Stipulated Evidence admitting evidence from the Indiana Case relating to validity, and correspondence by the Special Master to counsel dated April 30, 1994 and November 4, 1994 listing validity issues, including 35 U.S.C. §112, to be included in the finding in this case

(i) the Defendant's counterclaim regarding patent invalidity and non-infringement filed with its Answer is hereby ordered reinstated; and

(ii) the Defendant's Amended Answer to Plaintiff's Original Answer containing paragraphs 12 and 13 relating to defenses of invalidity under 35 U.S.C. §112 is hereby ordered entered.

Date: March 2, 1995 /s/ Edward G. Fiorito
Edward G. Fiorito

Texas Bar No. 07038600
6925 Spanky Branch Drive
Dallas, Texas 75248-1527
214-380-1070

SPECIAL MASTER

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS
DALLAS DIVISION

WAYNE K. PFAFF, Plaintiff, v. WELLS ELECTRONICS, INC., Defendant.	Civil Action No. 3-91-CV-1542-H

DEFENDANT'S AMENDED ANSWER TO PLAINTIFF'S ORIGINAL COMPLAINT

Defendant, Wells Electronics, Inc., hereby answers Plaintiff's original complaint as follows:

1. Defendant admits the allegations of Paragraph 1 of the Plaintiff's original complaint.

2. The Defendant is without sufficient information or knowledge to form a belief with respect to the allegation of Paragraph 2 of the Plaintiff's original complaint, and, therefore, denies such allegations.

3. The Defendant admits the allegations of Paragraph 3 of the Plaintiff's original complaint.

4. The Defendant admits that U.S. Patent No. 4,491,377 was issued to the Plaintiff but denies that said patent was duly and legally issued as alleged in Paragraph 4 of the Plaintiff's original complaint.

5. The Defendant is without sufficient information or knowledge to form a belief with respect to the allegations of Paragraph 5 of the Plaintiff's original complaint, and, therefore, denies such allegations.

6. The Defendant denies the allegations of Paragraph 6 of the Plaintiff's original complaint.

7. The Defendant denies the allegations of Paragraph 7 of the Plaintiff's original complaint.

8. The Defendant denies the allegations of Paragraph 8 of the Plaintiff's original complaint.

COUNTERCLAIM FOR PATENT INVALIDITY AND NON-INFRINGEMENT

9. This counterclaim is brought under 28 U.S.C. Sections 2201 and 2202 and the Patent Laws of the United States, entitled 35 U.S.C. Sections 1 et seq., for declaratory judgment with respect to the invalidity of U.S. Patent No. 4,491,377, the patent in suit, and Plaintiff's allegations of infringement thereof by Defendant.

10. Plaintiff, in his complaint, has alleged that he is the owner of the patent in suit and has brought this action for infringement thereof against Defendant.

11. U.S. Patent No. 4,491,377 is invalid, void and unenforceable for failure to comply with the statutory requirement of 35 U.S.C. Sections 102 and 103.

12. Claims 1 and 15 of U.S. Patent No. 4,491,337 [sic] are invalid under 35 U.S.C. Section 112 by failing to particularly point out the subject matter which the applicant regards as his invention.

13. Claims 7, 19, and 20 of U.S. Patent No. 4,491,337 [sic] are invalid under 35 U.S.C. Section 112 by failing to distinctly claim the subject matter which the applicant regards as his invention.

WHEREFORE, Defendant prays:

A. That this Court declare U.S. Patent No. 4,491,377 invalid and void and not infringed by any action of the Defendant.

B. That this Court enjoin the Plaintiff and those in privity with him from charging infringement hereof against the Defendant, its distributors of Defendant's device herein charged with infringement or anyone in privity with the Defendant.

C. That the Defendant be awarded its costs and expenses.

D. That the Defendant be awarded reasonable attorney fees.

E. That the Defendant be awarded such other and further relief as this Court may deem just and equitable.

F. That the Plaintiff's complaint be dismissed.

Date: _____ Respectfully submitted,

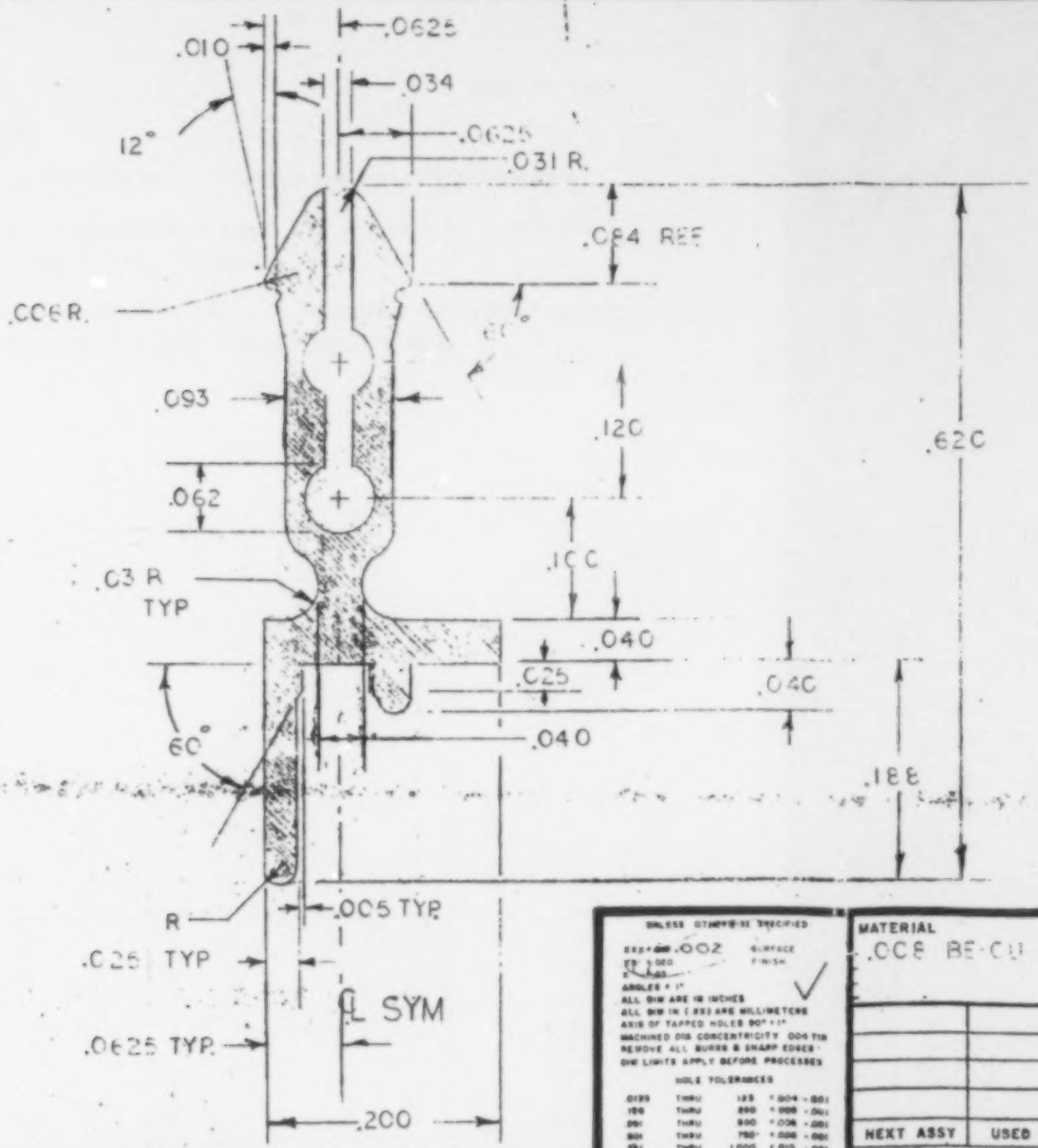
_____

James D. Hall
BAKER & DANIELS
205 West Jefferson Blvd, Suite 250
South Bend, Indiana 46601
(219) 234-4149

Richard L. Schwartz
AKIN, GUMP, STRAUSS, HAUER
& FELD, L.L.P.
1700 Pacific Avenue, Suite 4100
Dallas, Texas 75201-4618
Attorneys for Defendanat [sic]

NOTES

REVISIONS					
LTR	ECN	DESCRIPTION	DATE	DWN	APVD



(FLAT WITHIN .003)

DEFENDANT'S EXHIBIT BD

4278

FEB 25 1981

UNLESS OTHERWISE SPECIFIED
.XXX ± .002 SURFACE FINISH
.XX ± .020
.X ± .03
ANGLES ± 1°
ALL DIM ARE IN INCHES
ALL DIM IN (XX) ARE MILLIMETERS
AXIS OF TAPPED HOLES 90° ± 1°
MACHINED DIA CONCENTRICITY .004 TIR
REMOVE ALL BURRS & SHARP EDGES
DIM LIMITS APPLY BEFORE PROCESSES

HOLE TOLERANCES

0135	THRU	125	+.004 -.001
126	THRU	250	+.005 -.001
251	THRU	500	+.006 -.001
501	THRU	750	+.008 -.001
751	THRU	1.000	+.010 -.001
1.001	THRU	2.000	+.012 -.001

MATERIAL .006 BE-CU 25		PROCESSES HT. FULL TEMPER SYLER .0001			
				DWN	DATE
				CHK	
				ENGR	
NEXT ASSY	USED ON	-1	-2	APVD	
APPLICATION		QTY		SCALE 10X	

PLASTRONICS DALLAS, TEXAS U.S.A.

TITLE CONTACT - CHIP CARRIER - DUAL POSITION

SIZE	COD ID NO	DWG NO	REV	SH
B		P2002	—	1/1

BEST AVAILABLE COPY

FEB. 25, 1981

Dieter

1st order will be for 500,000 springs (25,000 sockets)

Need preproduction parts to customer in 4 months – involves 3 cavity mold.

Please advise feasibility of stamping this P2002 spring extra dwgs for you to make up & return.

Wayne

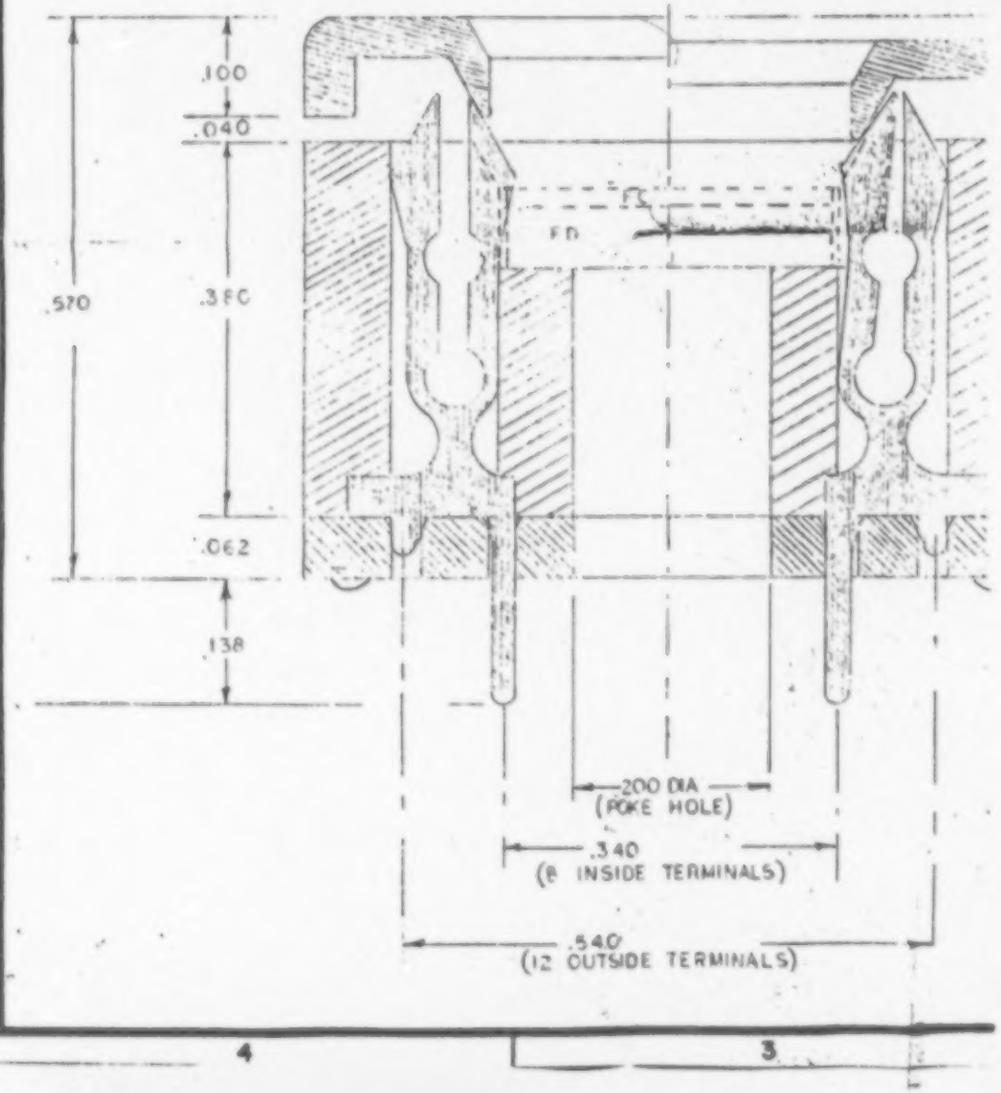
NOTES

PLASTRONICS

1016 DAVANDAN
IRVING, TEXAS 75062

WAYNE PFAFF (214) 580-1000

REVISIONS						
LTR	ECN	ZONE	DESCRIPTION	DATE	DWN	APVD



TOP CAP DEPRESSION (11 POUNDS)

.028

.750
SQUARE

ACTUAL SIZE

DEFENDANT'S EXHIBIT BHA

Wayne Pfaff 5-10-91

MATERIAL	PROCESSES			
		DWN	DATE	
		CHK		
		ENGR		
NEXT ASSY	USED ON	APVD		
APPLICATION		QTY	SCALE	

PLASTRONICS DALLAS, TEXAS U.S.A.

TITLE
SOCKET CHIP CARRIER
ZIF OR PUSH FIT

SIZE	CODE IDENT NO	DWG NO	REV
C		P2020	

SHEET

BEST AVAILABLE COPY

DELTA V IESTRUMENTS
1400 S. SHERMAN, SUITE 112
RICHARDSON, TEXAS 75081
(214) 644-6501

PURCHASE ORDER

ORDER NO.
CC - 9405

DEFENDANT'S EXHIBIT BZ

TO PLASTRONICS
Attn: Wayne Pfaff
ADDRESS 1316 Savannah
CITY Irving, Texas 75062

SHIP TO
ADDRESS
CITY

REQ. NO.	FOR	DATE REQUIRED	TERMS	HOW SHIP	DATE
	T. I. Sherman	see del. sch.	Net 30		3-31-81

	QUANTITY ORDERED	RECEIVED	PLEASE SUPPLY ITEMS LISTED BELOW	PRICE	UNIT
1			CONFIRMATION OF ORDER PLACED VERBALLY 3-17-81		
2	ITEM #	QUANTITY			
3	1.	20,000	Chip Carrier Sockets for 20 Pin	2.00	each
4			.350" square package		
5	2.	2,400	Chip Carrier Sockets for 28 Pin	5.83	each
6			.450" square package		
7	3.	3,900	Chip Carrier Sockets for 28 Pin	4.55	each
8			.350" x .550" rectangular package		
9	4.	3,300	Chip Carrier Sockets for 32 Pin	5.11	each
10			.450" x .550" rectangular package		
11					
12			All sockets to be similar to Plastronics Irvin;		
13			No. P2020. Body material to be Ryton. Contacts		
14			to be BeCu, Ni-Bo plating. Socket and contact		
15			materials to be capable of at least 175° C.		
16			All sockets are being purchased with the understanding		
17			that said sockets will meet the engineering criteria		
18			of T.I. applications or be returnable for full refund		
19			with no liability whatsoever		
20			DELIVERY: Item 1. - 14-16 wks from 3-17-81		
21			Items 2,3,4 - 16-20 wks from 3-17-81		
22					

DISPOSITION OF MATERIAL	Receiving Clerk
	PURCHASING AGENT

1H 147 Rediform

RECEIVING DEPT. COPY

60

[Pfaff v. Wells Elecs.] U.S. Dist. Ct. N.D. Tex.

[Excerpts from Deposition of Wayne K. Pfaff]

* * *

[p. 3] (Whereupon, the witness was duly sworn.)

WAYNE K. PFAFF, the Plaintiff, called as a witness by the Defendant, pursuant to notice and Protective Order, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HALL:

Q. Would the witness please state his full name?

A. Wayne K. Pfaff.

Q. Where do you live, Mr. Pfaff?

A. 309 Steeple Chase, Irving, Texas, 75062.

Q. Mr. Pfaff, have you given a deposition or testimony before in any litigation?

A. No, sir. I have not.

Q. All right. I am sure that your able attorney has explained, but let me just give you the litany again.

This is a discovery deposition, although I must caution you that since you are the Plaintiff in this case – and therefore a party to this deposition it may be used as direct evidence – unlike the employees.

I will be asking you questions and my purpose is not to mislead you or confuse you; if you

* * *

[p. 5] DIVISION PFAFF v. WELLS ELECTRONICS, CIVIL ACTION NO. S86-00449 NOTICE OF DEPOSITION . . . ," consisting of one copied page, was marked as Defendant's (Pfaff) Deposition Exhibit No. 1, for identification, as of 1-30-87.)

(Whereupon, a document under title of "United States Patent Patent Number: 4,491,377 Date of Patent: Jan. 1, 1985 MOUNTING HOUSING FOR LEADLESS CHIP CARRIER . . . ," consisting of nine hand numbered pages was marked as Defendant's (Pfaff) Deposition Exhibit No. 2, for identification, as of 1-30-87.)

BY MR. HALL: (Continuing)

Q. Mr. Pfaff, I show you what has been marked as Deposition Exhibit No. 2.

A. (Indicating as directed.)

Q. And I ask you if you recognize it?

A. (Indicating as directed.)

THE WITNESS: A. Sure do.

Q. And what is it, please?

A. It is a patent on a LOCKNEST socket which is a tradename for an integrated circuit burn-in socket [p. 6] or surface-mount device.

Q. That is U.S. Patent No. 4,491,377, the patent-in-suit, is it not?

A. I believe it is, yes.

Q. In other words, the subject matter of this suit?

A. Sure.

Q. And on this patent it states:

"Inventor: Wayne K. Pfaff."

Are you the inventor of this patent?

A. I am the inventor.

Q. I notice at that time it has "1316 Savannah Street"?

A. I moved.

Q. You moved?

A. Yes. Closer to the golf course.

Q. Mr. Pfaff, if you would, just give us a summary of your employment history and let us first start that by your educational background and then we will move into when you first began full employment after your education, at least after your formal education ceased.

Okay?

A. Okay.

I have a degree in Industrial Management, BBA, at TCU, 1965

* * *

[p. 11] responsibilities of manufacturing the proprietary product line for him, as well as doing custom molding and custom contacts for burn-in.

And in 1976 I bought my stock out of the company and reconfigured it into what it is today, which is a

company dedicated to automated insertion equipment and burn-in sockets.

Q. In 1978, when you bought your stock – presumably from your partner that you merged with –

I presume that's what you did?

A. Yes.

I reacquired full rights to the corporation.

Q. Now you have sole ownership?

A. Yes.

Q. Do you have sole ownership at the present time?

A. I have. I have.

Q. In 1978, what was your employee status?

How many employees did you have then?

One? Yourself?

A. Back to "ground zero." You got it.

Q. Now in let's say 1980, what was your employee status at that time?

A. One.

Q. One?

A. Right.

[p. 12] Q. Did you have equipment in your company?

A. No.

Q. You had no molding machinery or anything of that nature?

A. No. Totally nonmanufacturing. At that particular point in time I was designing and selling a product called the "twister" which was a machine for loading integrated circuits into burn-in boards.

Q. You designed the machine?

A. I designed it, manufactured and resold it.

Q. Yes.

A. Which kind of is a nice story. It sold a million-four in the first year in dollars as a proprietorship, and I turned around in '80 and I sold it for three-quarters of a million dollars, sold the product line.

Q. Sold that product line?

A. Sold that product line.

Q. In 1980?

A. Right.

Q. In 1980 – at this time – and perhaps I have asked you this – how many employees?

Still the one?

A. One.

Actually two – my wife is taking care of the financial end of it. She always has.

[p. 13] So affectively there is two employees.

Q. Sort of the bookkeeper, that sort of thing?

A. Yes.

Q. And keeps you in harness?

A. Yes.

Q. Puts the choke collar around you?

A. She is a better money manager than I am.

Q. And she stays off the golf course?

A. That's right.

Q. In 1981 – how many employees did you have then?

A. One.

Pardon me. Two.

Q. Two?

A. My wife and I.

Q. Now she is an official employee?

A. Yes. She is an official employee, right.

Q. And how many employees do we have now?

A. Six.

Q. Six?

A. Yes.

Q. Well, how did we get to the six now from 1981 to the present, 1987?

A. We hired them.

Q. When did "we" hire the first one?

A. 1983. September of '83.

[p. 14] Q. And what was that person's position?

A. A "girl friday."

Q. Secretary type?

A. Secretary, right.

Q. Right.

A. Order entry, customer service, purchasing, girl friday.

Q. She would take the orders.

Were you essentially running – still the show – so to speak, in 1983?

A. Yes.

Q. At that time you estimated – do you have any machinery at present?

A. No.

Q. I take it then you farm out – as I would call it your manufacturing?

A. That's right. We use subcontractors for manufacturing, including assembly.

Q. Yes. Do you have a drafting board and that sort of thing?

A. Oh, yes. That's where the designs come from.

Q. You worked from that type of thing?

A. Right.

Q. And now we have – we now have three employees?

A. Right.

[p. 15] Q. And we have three more to go?

A. That's right.

Q. When did the fourth one make his or her presence known?

A. Draftsman, '84.

Q. What is his name?

A. Bruce Maston.

Q. Where does Mr. Maston reside?

A. I don't know. He's no longer with the company.

Q. How long was he employed?

A. About a year.

Q. As a draftsman?

A. As a draftsman, right.

Q. Now we had a fifth employee and when was he or she hired?

A. I think it was Dorwood Lewter, a designer, '85.

Q. Is he still employed with you?

A. Yes.

Q. Okay. And his position?

A. Designer.

Q. Designer.

Would you explain what –

A. (Interrupting) Mechanical products – jigs, fixtures, automated loading machinery, this sort of thing.

[p. 16] Q. He works over the drafting board, too, I take it?

A. Yes.

Q. Was he hired to replace Mr. Maston?

A. Maston (pronunciation).

Yes, he was. Yes, he was.

Q. So now we are back still to four employees?

A. That's right.

Q. Now let's go to the fifth.

A. Okay. A little financial girl. Accounting.

Q. Accounting?

A. Sandra Waytt.

Q. And when was she hired?

A. 1985.

Q. 1985?

A. Right.

Q. And we have one more to go.

A. It's Steve Durett. Who is the Automation Engineer.

Q. When was he hired?

A. 1987.

Q. He is fresh?

A. There's another, Marc Abalanet who was hired in 1986, who was a graphic artist and currently is doing design work. One more. Seven now.

Q. Seven now?

[p. 17] A. Yes.

Q. And the graphic design work – what type of artwork does he do?

A. This is catalogs, brochures, advertising type things.

Q. In other words, you do your own designing for that instead of farming it out to an advertising firm?

A. Yes. Yes.

Q. Is he a full time employee?

A. Full time employee.

Q. And then in 1987 "we" hired that other individual?

A. Steve Durett who is the automation products.

Q. That makes a total of seven employees now?

A. Right.

Q. In Answer to one of your Interrogatories that you answered there was a company identified as "Plastronics Socket Company, Inc."?

A. Mm-mm.

Q. What is the relationship of this company to Plastronics Company we are referring generally to here?

A. It is licensed to market the product from Plastronics, interconnection which is another corporation I own on a royalty basis.

Q. Let's just go through that a moment.

If we may, we start with you as the inventor?

* * *

[p. 53] A. By a supplier.

Q. By a supplier?

A. Delta V.

He placed an order and said "Build me some boards with those sockets."

And Delta V placed the order with me.

Q. The supplier?

A. That's right.

Q. Is this a Texas Instrument supplier?

A. They are a burn-in board manufacturer.

Q. When did the supplier place the order with you?

A. Virtually the same time frame.

Q. Did he do it orally or in writing?

A. No. I had a written purchase order.

Q. Is that purchase order still around?

A. I've looked for it and I can't find it.

Q. About when was that that that purchase order issued?

A. The same time frame.

Q. 1980?

A. November or so. That's right. October, November.

Q. We could put it before Christmas?

A. We could put it before Christmas, yes.

Q. From whom do you recollect did you get the purchase order?

[p. 54] A. A company called Delta V.

Q. But any particular individual from that company?

A. Jim Mangrom (sic).

Q. Jim Mangrom.

Does he still work for Delta V?

A. He owns the company. He still works for them.

Q. Now you have a purchase order for approximately how many?

A. Thirty-five thousand exactly.

Q. Thirty-five thousand at so much a pin?

A. That's right.

Q. And what did you say that was?

A. Ten cents a pin, roughly.

Q. Ten cents a pin, roughly, to the best of your recollection?

A. Yes.

Q. Then what did you do?

A. Then I sat down and designed the product.

Q. At your board at your plant?

A. That's right. Over my garage at home.

Q. Yes.

Was that on Savannah Street?

A. At the Savannah address.

Q. That address that we have on your patent?

A. That's correct.

[p. 55] I designed the product and sent it to a supplier for price quotes, purchased tooling, and then we started to build the product.

Q. Let's get the design.

About how long did it take you to get your drawing? In short order?

A. Oh, I imagine about a week.

Q. About a week?

A. I had some difficulty with their particular form-factor.

Q. Yes.

A. I wasn't comfortable with it.

Q. And you changed the factor a little bit?

A. Yes. I changed it to where it looked like LOCK-NEST does today (indicating).

Q. From what you had here (indicating)?

A. That's right.

Q. But the principle was the same?

A. That's right. Normally-closed contactor.

Q. And you completed your drawings – what type of drawings were these, by the way?

A. Engineering drawings.

Q. Engineering drawings?

A. Yes.

Q. About one week?

[p. 56] A. I'd say about a week.

Q. That would have been prior to Christmas?

A. That would have been prior to Christmas.

Q. Are these drawings available? Are they around someplace?

A. I would imagine they are somewhere.

Q. Because I requested some developmental drawings but –

A. (Interrupting) Okay.

Q. (Continuing) – but the ones I got – and we will discuss these in just a minute – apparently are from your molder and are dated 3-31-81?

A. All right.

Q. But there were others earlier than this?

A. Oh, yes. I'm sure there were. My original drawings on the thing.

Q. Which were engineering drawings, and you blueprinted your copy and then whom did you send those to?

A. My manufacturer, Weiss-Aug Stamping Company, yes.

Q. And they would make what? The contacts?

A. The contact spring.

Q. Who would handle the parts with respect to the base and the top?

A. It was a company called Plastomatic in New Jersey.

[p. 57] Q. Did you send prints to them, too?

A. No. I sent everything to Weiss-Aug. They wanted to turn-key the product for me.

Q. I see.

A. Stamp the stamp, buy the mold, and assemble them.

Q. And this was still prior to Christmastime in 1980, to the best of your recollection?

A. I think it was, as far as the transaction.

Q. Yes.

A. It may have gone into '81. I'm not sure.

Q. But the first of the year?

A. Yes. That time frame.

Q. Now, at this time did we have any prototypes developed or anything of that nature, working embodiment?

A. No.

Q. It was in a drawing.

Is that correct?

A. Strictly in a drawing. Went from the drawing to the hard tooling. That's the way I do my business.

Q. "Boom-boom"?

A. You got it.

Q. You are satisfied, obviously, when you come up with some drawings that it is going to go – "it works"?

[p. 58] A. I know what I'm doing, yes, most of the time.

Q. All right. Except for – when was that?

A. The "boo-boo."

Q. Yes.

A. It functions.

Q. Okay.

When you finished your drawings in late 1980 or very early 1981, it was a going – it was a "go"?

A. A "go" situation.

Q. You were satisfied that it worked?

Did you, by the way, show these drawings to Mr. Wilson over at Texas Instruments?

(Whereupon, there was a pause in the proceedings.)

THE WITNESS: I honestly can't remember whether I did or not. I know I changed the design.

And my responsibility was to make it work. I really don't think I showed them to him because basically what I was doing was that, and he was satisfied with that.

Q. Yes. He was satisfied with your sketch?

A. Yes.

[p. 59] Q. And –

A. (Interrupting) He said "It looks good."

Q. You had a good enough working relationship that you had a "deal"?

A. Oh, yeah.

Q. Did you receive any money?

A. No.

Q. Up to this time?

A. No.

Q. No money exchanged; just the purchase order?

A. Just the purchase order. There was no money for tooling, no funding. Strictly "sell the product."

Q. Now, what happened after you sent these to the stamper?

What was the next event that occurred in the development?

A. He manufactured it, the tooling for the component. We got the prototype parts and made a few fine-tuning adjustments on it and we had product.

Q. Did he give you a sample then?

A. Oh, sure.

Q. About when?

A. For approval.

Q. About when did you. receive the sample? Do you know?

* * *

[p. 66] Q. It was the first order?

A. Yes.

Q. And how do we know that?

A. Well, the contract is for $30,000.

Okay?

Q. Yes. That is the figure I think you mentioned.

A. Yes.

Q. Okay. Let me show you what has been marked as Defendant's Exhibit 8 which is a drawing.

A. Okay.

Q. Do you recognize that drawing?

A. Sure do.

Q. That is by whom?

A. By Weiss-Aug Company. It took my drawings and we drew them.

Q. "We" drew them?

A. For their own personal benefit.

Q. It bears a date of 3-31-81. Correct?

A. Sure does.

Q. That would have meant, therefore, that your initial order – that you got from Gary Wilson – would have been prior to 3-31-81?

A. It would have been prior.

Q. Is that true?

A. Sure would have.

[p. 67] Q. Perhaps several weeks. Is that true?

A. I would imagine several weeks, certainly.

Q. So it may, indeed, may have been an initial order of perhaps November of 1980?

A. It could have been.

Jack?

MR. KANZ: (No audible response.)

THE WITNESS: This stuff had to happen.

BY MR. HALL: (Continuing)

Q. I have a couple more things.

We will mark three more drawings here if we could as exhibits and I think we can mark them separately, please.

(Whereupon, a drawing under title of "WEISS-AUG CO., INC. TITLE: BODY-SOCKET CHIP CARRIER DATE: Illegible . . . ," consisting of one copied page, was marked as Defendant's (Pfaff) Deposition Exhibit No. 9, for identification, as of 1-30-87.)

(Whereupon, a drawing under title of "WEISS-AUG CO., INC. TITLE: CAP-SOCKET CHIP CARRIER DATE: 3-31-81 . . . ," consisting of one copied page, was marked as

* * *

[p. 71] A. And at a particular point in time we made a new product and they "royally screwed it up."

At that point in time they said "Wayne must approve all drawings that we make internally."

So they sent me all the drawings for approval.

Okay?

Q. Let's go back now.

In other words, the product was sent in '81 to Delta V and "it don't work"?

A. It worked.

Q. It worked?

A. It worked.

Q. Was it used by Texas Instruments?

A. It was used.

Q. Yes. What was the difficulty?

A. There is no difficulty with these.

Q. I see.

A. It was about a year later when they were designing additional products. In other words, they wanted to also control the drawings.

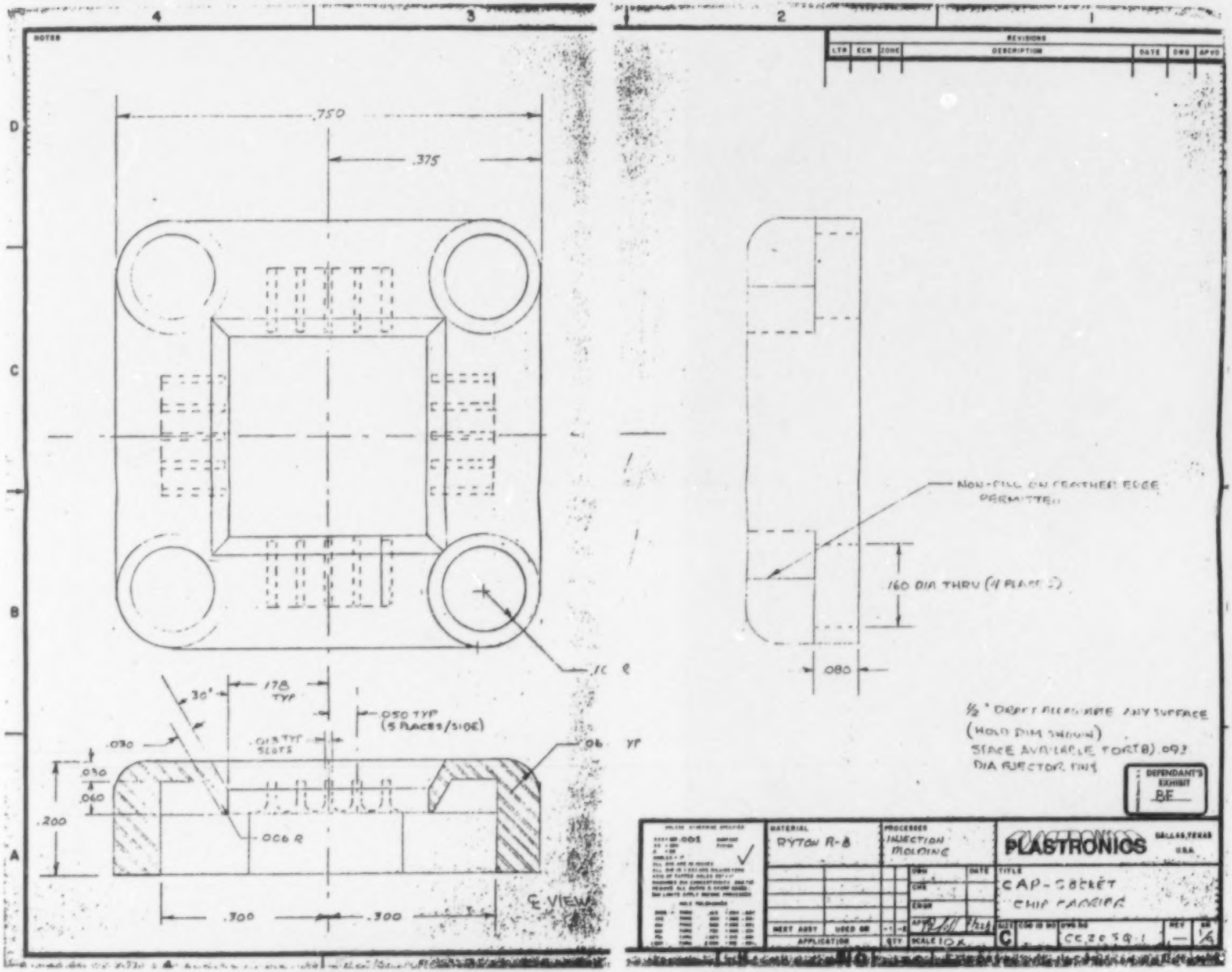
Q. I see.

A. Okay?

Q. Yes.

A. And they designed one and it didn't work, so they

* * *



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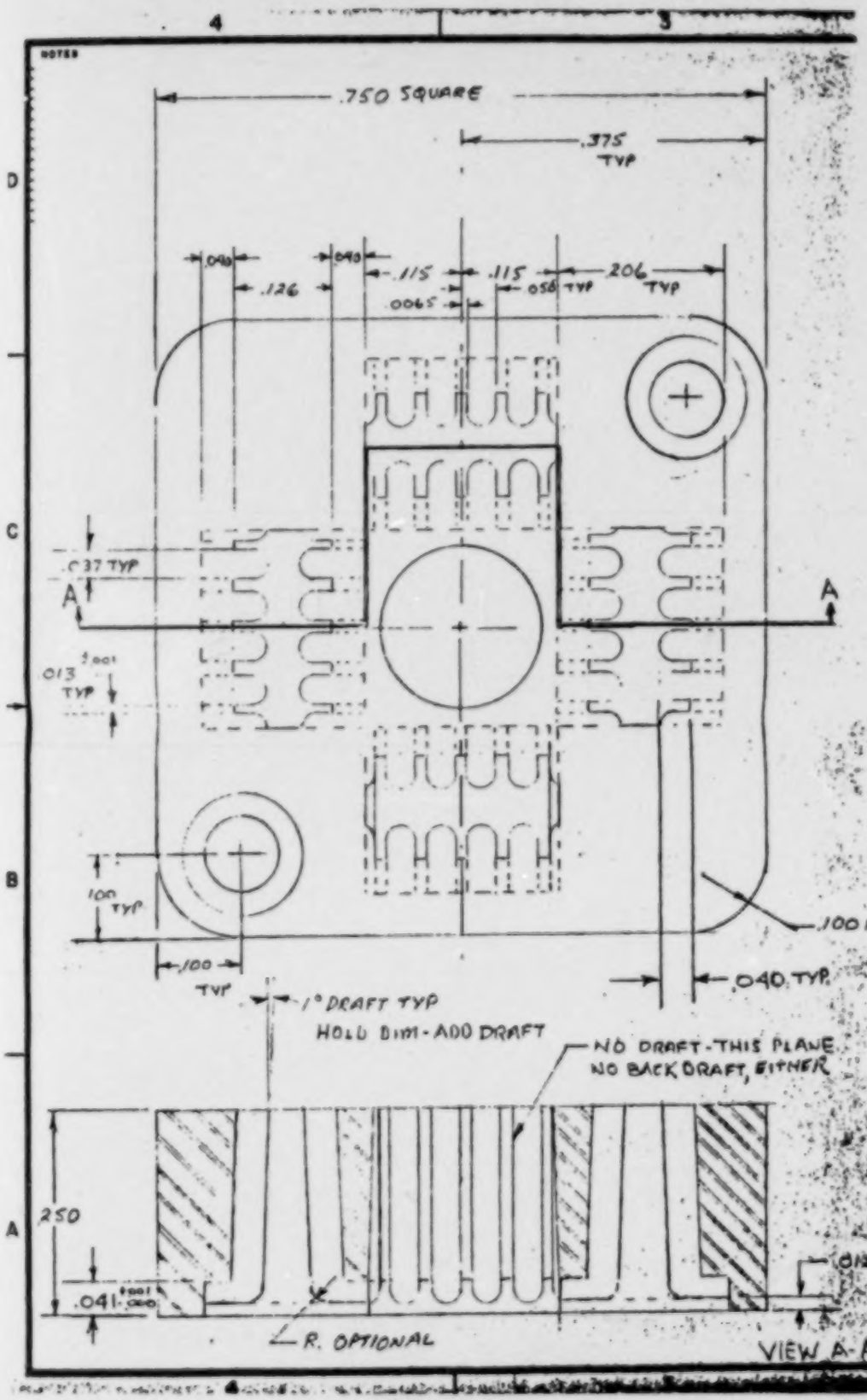

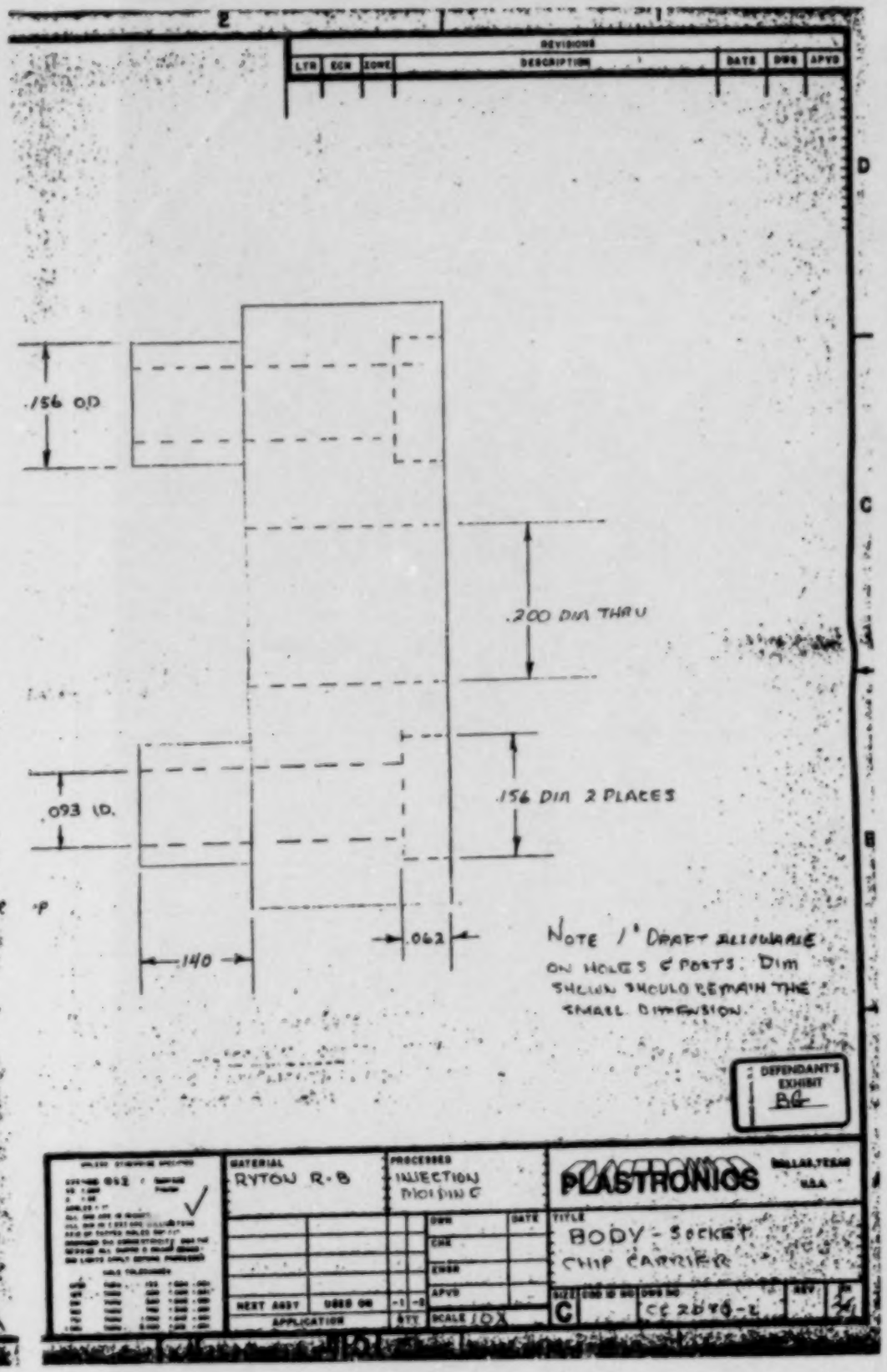

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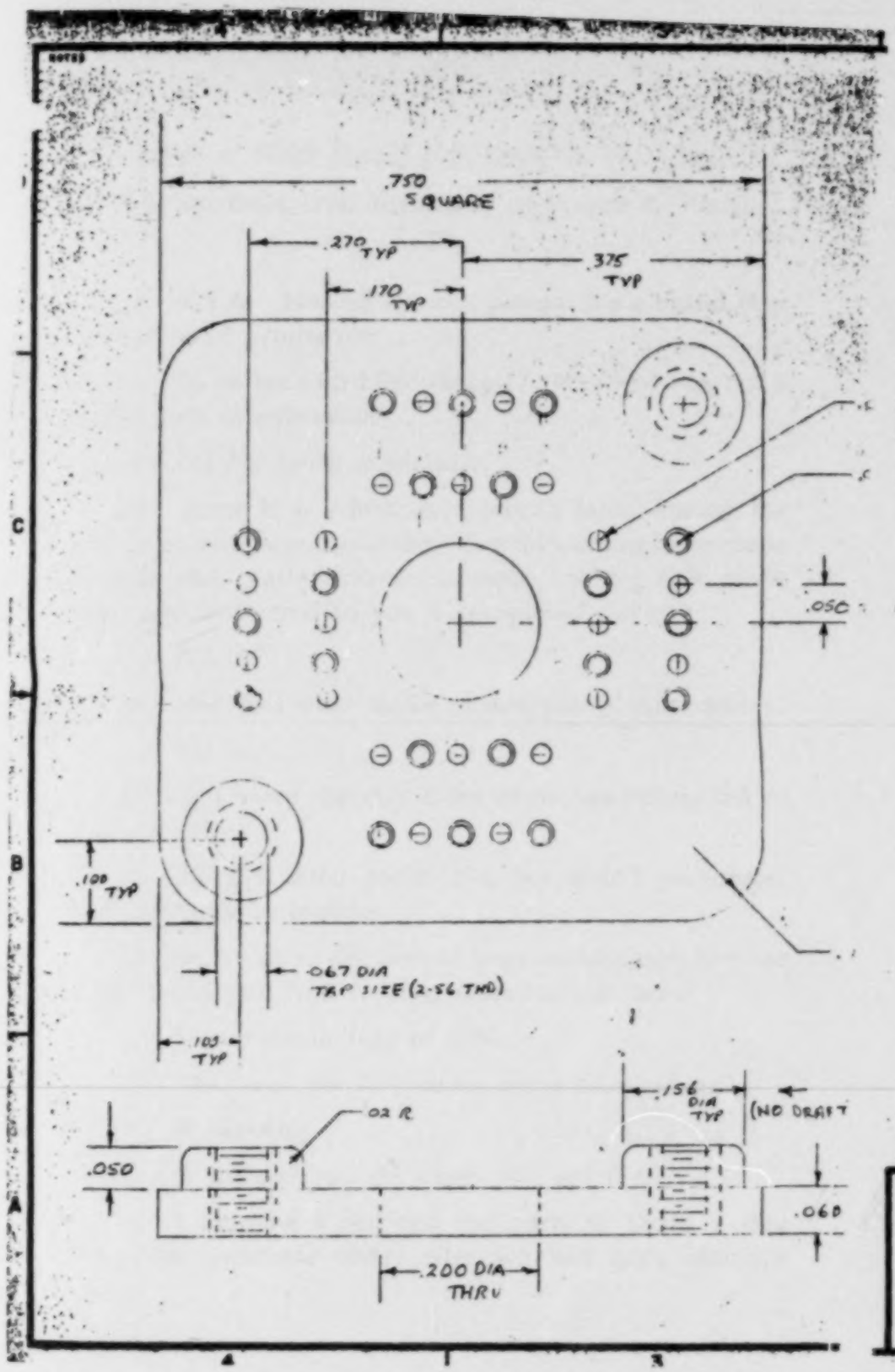


REVISIONS

LTR	ECN	ZONE	DESCRIPTION	DATE	DWN	APVD

DEFENDANT'S EXHIBIT BH

MATERIAL RYTON R-8	PROCESSES INJECTION MOLDING	PLASTRONICS DALLAS, TEXAS U.S.A.	
NEXT ASSY USED ON	APVD 4/11	TITLE BASE - SOCKET CHIP CARRIER	
APPLICATION	QTY SCALE 10X	SIZE C	DWG NO CC20-9-3 REV

[Pfaff v. Wells Elecs.] U.S. Dist. Ct. N.D. Tex.

[Excerpt from Trial Testimony of Wayne K. Pfaff]

* * *

[p. 147] A. No. All custom design. It's a brand new development program.

Q. So as far as 3-17-81, May 17, '81 there was not a single part in existence?

A. No No parts until July.

Q. April 19th which is a month later, during the month is there any possibility that they could have made tooling and made drawings, made tooling and made parts and delivered to you a completed device?

A. No.

Q. Did you ever make prototypes of this device?

A. No.

Q. You went directly from drawings submitted to Weiss-Aug?

A. They wanted parts. No, we didn't prototype. Went directly to tooling.

Q. So when to the best of your recollection or your records did you first receive assembled devices?

A. Sometime in July of 1981.

Q. That was the first order came from where?

A. Weiss-Aug.

Q. What did you do when you got there?

A. I imagine I shipped the parts to Delta V this particular purchase order after we had gone through testing.

Q. What kind of testing did you do?

A. Mechanical cycling. Went to independent testing lab. I [p. 148] had a machine that would cycle the product because I was very concerned about having this inneredge as a knife cutting through the cap. That was the one area I thought was high risk. I put this in a machine and cycled it 72,000 times and took it apart to see how much adverse wear was there. I was relieved to find it was shiny, no wear. I felt mechanically I had a good product.

Q. Mechanical testing only?

A. I didn't have the facility for thermal or electrical.

Q. Using a burning oven?

A. Didn't have a burning chamber.

Q. That had to occur after you delivered the devices to Delta V and they assembled the board and delivered it to Texas Instruments; is that correct?

A. That's correct.

Q. Let's look at this document, that's Defendant's BZ, Plaintiff's 20; is that correct?

A. Okay.

Q. I believe opposing counsel pointed out at the top of that document it says "Confirmation of Order Placed verbally 3-17-81"?

A. That's probably what happened.

Q. At the time you – I assume you received this in your office, the original of this document?

A. Yes.

[p. 149] Q. Is that correct?

A. Well, at that time it was at my home working out of the house.

Q. There is some notation on the bottom starting about No. 11 on that socket. Can you read that?

A. "All sockets to be similar to Plastronics drawing No. P2020. Body material to be Ryton. Contacts to be BeCu and contact material to be capable of at least 175 degrees. All sockets being purchased with the understanding that said sockets will meet the original engineering criteria of TI applications or be returned for the full refund with no liability whatsoever."

Q. That's what it said. What did you understand that to mean?

A. If it works, they buy it. If it doesn't work, they don't.

Q. I believe you said you finally delivered some of these somewhere late July or August?

A. True. And also believe the other guy bidding on the contract had his order canceled.

Q. Any doubt in your mind, Mr. Pfaff, any one of the four components that make up this device was actually in existence on the date of April 19, 1981?

A. No way.

Q. Had any testing been done on this assembled device that [p. 150] didn't exist on April 19, 1981?

A. No.

Q. At this time did you know if this device was going to satisfy those requirements of TI?

A. Sort of like all new products. You really never know until you get through with it.

Q. You don't know until it's tested?

A. That's right. New products are like babies. They're going to get wet their pants and you never know when.

Q. No physical part of this device existed prior to April 19, 1981?

A. No.

Q. You had drawings and concept only?

A. Check.

MR. KANZ: Pass the witness.

THE COURT: Thank you, Mr. Kanz.

Any recross, Mr. Hall?

MR. HALL: Just a couple.

RECROSS EXAMINATION

BY MR. HALL:

Q. I understand your testimony, Mr. Pfaff. The molds you were working on were 12-cavity molds, correct?

A. Yes, sir.

Q. Those were production molds, aren't they?

A. Production molds.

* * *

[Pfaff v. Wells Elecs.] U.S. Dist. Ct. N.D. Tex.

[Excerpts from Deposition of Wayne K. Pfaff]

* * *

[p. 54] notebook on the end of that. If you will, look in that notebook to Exhibit No. 3, please.

A. I have it.

Q. That should be a copy of United States Patent No. 4,491,377; is that correct?

A. It is.

Q. Are you the Wayne K. Pfaff named as inventor in that patent?

A. I am.

Q. Are you the owner of that patent?

A. Yes, I am.

Q. By the way, have you ever granted anybody a license under this patent, particularly Wells Electronics?

A. Yes, a company called Plastronics.

Q. Your own company?

A. Yes.

Q. But has anybody else been granted a license under this patent?

A. No.

Q. That is the patent you understand that's in suit here today?

A. Yes.

Q. Can you tell the Court how you came about making the invention that is claimed in that patent?

[p. 55] A. Yes, it's – I think in late 1980, Texas Instruments asked me to come see them, that they had a new packaging technology and did not want to use existing socketry technology because it was bulky, cumbersome, had –

Q. Mr. Pfaff, let me interrupt you.

A. Yes.

Q. What kind of business were you in at this time that you are talking about?

A. The business I was in at that point in time, I was selling burn-in sockets, a product line that I owned, and was also manufacturing pick and place equipment for loading and unloading of burn-in boards.

Q. How long had you been involved in burn-in board technology at that time?

A. Twenty years.

Q. Fairly familiar with the industry even at that time?

A. Oh, yes.

Q. And we're talking about what time period when TI made this contact?

A. 1980, '81.

Q. And how did this contact come about?

A. Well, Gary Wilson of Texas [p. 56] Instruments-Sherman felt they needed a more efficient manner to produce burn-in tests, this – this new package called a leadless chip carrier. They wanted higher density and faster loading, lower costs.

And in effect, what happened when I developed this socket for them, the number is one-third. They had three times the density, so they had one-third the handling of boards. They had one-third the need for chambers. A burn-in chamber costs $100,000, so they needed one instead of three. They used less current and less power and less electricity. It virtually cut the cost of doing burn-in by over 60 percent. And subsequently, it was very well received by the industry.

Q. When did this contact occur with Mr. Wilson of Texas Instruments?

A. Sometime in late 1980.

Q. Did Mr. Wilson tell you exactly what he wanted, or did he give you characteristics that he wanted?

A. He gave me the characteristics he wanted, myself and four competitors – three other competitors.

Q. What were the characteristics that TI was [p. 57] most concerned about?

A. Ease of handling, higher density, higher heat. It would take more heat than they had in the past, but the – the key thing was more efficient process control along with lower costs.

Q. Did you subsequently design a burn-in socket that satisfied those criteria?

A. Yes, I did. Its trade name is Locknest.

Q. You had started manufacturing the device then; is that correct? At some time, you started manufacturing the device?

A. Yes, late '81.

Q. You refer to that type of socket as a Locknest socket?

A. Yes, it was the first open top, zero insertion interconnect device for leadless devices.

Q. The term "Locknest," is that a trademark that you use?

A. It is a trademark.

Q. You have seen this exhibit marked Plaintiff's Exhibit 1, and you heard Mr. Mangum's testimony about it. Would you explain to the Court what the difficulties were with that particular socket?

A. That was state of the art at that point in

• • •

[p. 25] (Pfaff) Deposition Exhibit No. 5, for identification, as of 1-30-87.)

(Whereupon, a document under title of "BURN-IN SOCKETS FOR SURFACE MOUNT DEVICES LOCKNEST The Simple Alternative . . . PLASTRONICS . . . ," consisting of four hand numbered pages, was marked as Defendant's (Pfaff) Deposition Exhibit No. 6, for identification, as of 1-30-87.)

BY MR. HALL: (Continuing)

Q. Mr. Pfaff, I will show you what has been marked as Deposition Exhibit No. 3.

And ask you if you recognize it?

A. Yes. That's another product line that's been a "total bomb."

And that is the reason I do remember it.

Q. What is shown in that particular document?

A. It is a series of zero insertion sockets for dual in-line packages.

Q. Is that a – you recognize the document itself?

A. Well, not particularly. It is a new sheet. Looks like ours, though.

Q. I believe it came from one of your catalogs.

A. Yes. I don't – that is a quarter million dollar [p. 26] "boo-boo."

That is what it is.

You never do that, do you, Art?

MR. MIDILI: (No audible response.)

BY MR. HALL: (Continuing)

Q. Is that a zero insertion device? Is that correct?

A. That is.

Q. It is a "boo-boo", you say?

A. Yes.

Q. It apparently has not worked out well?

A. It will not function without the equipment to activate it. There is no equipment available.

As soon as I develop the equipment, then it will be functional.

Q. Have these been marketed?

A. We attempted to market them.

Q. Yes.

A. Sold a few orders and the product is not user-friendly.

Q. I see. I understand.

When were these first introduced?

A. Oh, it's like a bad dream. I have lost my memo on this thing.

I would say probably 1984.

* * *

[p. 57] Q. Did you send prints to them, too?

A. No. I sent everything to Weiss-Aug. They wanted to turn-key the product for me.

Q. I see.

A. Stamp the stamp, buy the mold, and assemble them.

Q. And this was still prior to Christmas-time in 1980, to the best of your recollection?

A. I think it was, as far as the transaction.

Q. Yes.

A. It may have gone into '81. I'm not sure.

Q. But the first of the year?

A. Yes. That time frame.

Q. Now, at this time did we have any prototypes developed or anything of that nature, working embodiment?

A. No.

Q. It was in a drawing.

Is that correct?

A. Strictly in a drawing. Went from the drawing to the hard tooling. That's the way I do my business.

Q. "Boom-boom"?

A. You got it.

Q. You are satisfied, obviously, when you come up with some drawings that it is going to go – "it works"?

[p. 58] A. I know what I'm doing, yes, most of the time.

Q. All right. Except for – when was that?

A. The "boo-boo."

Q. Yes.

A. It functions.

Q. Okay.

When you finished your drawings in late 1980 or very early 1981, it was a going – it was a "go"?

A. A "go" situation.

Q. You were satisfied that it worked?

Did you, by the way, show these drawings to Mr. Wilson over at Texas Instruments?

(Whereupon, there was a pause in the proceedings.) THE WITNESS: I honestly can't remember whether I did or not. I know. I changed the design.

And my responsibility was to make it work. I really don't think I showed, them to him because basically what I was doing was that, and he was satisfied with that.

Q. Yes. He was satisfied with your sketch?

A. Yes.

* * *

[p. 78] We have this device shown as the LOCKNEST-II?

A. Okay.

Q. It is now marked as Defendant's Exhibit 12.

A. Right.

Q. You indicated, Mr. Pfaff, that you do indeed recognize it?

A. Unfortunately I do.

Q. All right. Would you give me a little history of that?

A. That was developed for a specific type of chip carrier that required contact over the top as opposed to the side, as a LOCKNEST-I does.

And this was developed for Western Electric.

Q. Western Electric?

A. Yes. AT&T.

Q. Where at?

A. Allentown.

Q. Allentown. About when was that developed?

A. The '84 era.

Q. 1984?

A. Yes. Sometime in '84.

Q. All right.

A. Delivered, I believe, 28,000 pieces or 35,000. Thirty-five thousand pieces, 28-pin.

And we abandoned the technology because it [p. 79] was marginal. It's not a good product.

Q. Yes. Developed in 1984.

Did you develop that concept?

A. Yes, I did.

Q. Okay. And were some of those produced?

A. Yes.

Q. I take it?

A. Yes. About 35,000.

Q. Thirty-five thousand.

And delivered.

Is that correct?

A. Produced, delivered, paid for.

Q. And paid for?

A. Both.

Q. To Western Electric?

A. That's right.

Q. And you indicated that the things didn't go too well with it.

Is that correct?

A. It is marginal technology. It is not a real reliable contactor.

It is extremely user-unfriendly, because of the nature of the device and it has compression springs that push the cap back up to make -- force the contact.

[p. 80] Q. Yes. Was Western Electric pleased with the product?

A. The guy that bought it was. The guy that had to use it was not.

Q. They are not happy with it, I take it?

A. They were not happy with it.

But the specifier accepted it to spec.

Q. Who was that, by the way? Do you remember?

A. No. I can see his face. I can't remember his name.

Q. Someone at Western Electric?

A. Yes. It did the job he asked it to do.

Manufacturing did not wish to use it because it is too hard to push down. And there was no machinery to push it down.

Q. All right. About 1984?

A. Right.

Q. You said you were paid for those.

Is that correct?

A. That's right. They were accepted.

They were to spec' and they were approved and paid for.

Q. Now, has Western Electric requested their money back or anything like that?

A. No. They met the spec.

* * *

[Pfaff v. Wells Elecs.] U.S. Dist. Ct. N.D. Tex.

[Excerpt from Trial Testimony of Wayne K. Pfaff]

* * *

[p. 135] Q. Who was the customer?

A. Gather Wilson.

Q. Then did you at that time visit Texas Instruments?

A. Yes, I did.

Q. At this time did you not sketch out your concept for him?

A. Fundamentally, yes.

Q. But you had the top of the contact, did you not?

A. I believe I did.

Q. What happened? Was Texas Instruments impressed?

A. Somewhat. They let multiple contracts for development. Impressed with some other people also.

Q. Now at the time that you did your initial sketches what was said between Texas instruments and yourself? Do you recollect it?

A. It appeared they wanted to award me a contract through Delta V to design, develop and produce this new widget.

Q. I take it you returned then back to your office and you made some formal drawings, did you not?

A. To the best of my knowledge, I did not. We don't start any expenditures normally until we have a contract.

Q. You recollect I showed you this morning, I asked that you look in to the red books and find Defendant's Exhibit BZ.

That's the purchase order from Delta V to your company?

A. I have that exhibit.

[p. 136] Q. That purchase order is dated 4-8-81 refers to a confirmation order placed 3-17-81. Do you notice that? 3-17-81?

A. This is what it says, yes.

Q. You recollect any particular drawings around 3-17-81 that you did either for Delta V, Texas Instruments or your own contractor Weiss-Aug?

A. I would imagine immediately after the verbal order we started work on it, on drawings. This is customary.

Q. I would ask that you turn in that exhibit booklet to Exhibit BA?

A. (Complied.) Okay.

Q. That's the Weiss-Aug drawing, is it not?

A. Yes, it appears to be.

Q. Does it bear a date?

A. 2-11-82 and 3-14-82.

Q. Let's look at the date right below the name Weiss-Aug. Do you see it there?

A. 3-31-82.

Q. Is that a drawing of your socket device?

A. Yes, sir.

Q. Is it an engineering drawing?

A. It's an engineering drawing.

Q. I would ask if you would please turn to Exhibit BD, Baker Delta.

[p. 137] A. (Complied.)

Q. Do you recognize that drawing?

A. Yes, sir. I do.

Q. What is that drawing?

A. Looks like contact spring for Locknest.

Q. Is that an engineering drawing?

A. Yes, sir. I would construe it to be that.

Q. Does that bear a date that you can see?

A. Looks like 3-3-81.

Q. What's it say? It appears to be 2-25-81 Look at the stamp. It's stamped under see February 25 then.

A. 2-25-81 correct. It looks like 3-33-81. You says it's 2-25 I will take your word for it.

Q. What stamp do you see stamped above the name Plastronics?

A. I see February 25.

Q. That's possible that drawing assuming February 25, 1981 date is correct, would have been prior to the verbal order; is that correct, 3-17-81?

A. Yes. I would say it is.

Q. Would you refer now Defendant's Exhibit BE.

A. Okay.

Q. Do you recognize that drawing?

A. Yes, sir. I do.

Q. What is it?

[p. 138] A. It's an engineering drawing, contact, Locknest.

Q. It has a date does it?

A. Looks like 2-21.

Q. '81?

A. '81, yeah.

THE COURT: Excuse me. Did you say 2-21 or 3-21?

A. It looks like 2-21. It may be 3-21. It's not legible.

Q. Appears to be more of a 3-21, I believe, Mr. Pfaff?

A. Okay.

BY MR. HALL:

Q. We will refer now Defendant's Exhibit BF. Okay. That's another engineering drawing, is it not, from your company?

A. Yes, sir.

Q. Bears a date 3-22-81?

A. It looks like 3-22 to me, sir.

Q. Yes. That is of an engineering drawing of one of your component parts to your Locknest?

A. Yes, sir, it is.

Q. You would refer to Defendant's Exhibit BH?

A. (Complied.)

Q. Do you recognize that drawing?

A. Yes, sir.

Q. What is it?

A. It's an engineering drawing of a base plate Locknest socket.

[p. 139] Q. Locknest?

A. Yes, sir.

Q. It bears a date of what?

A. Appears to be 3-27.

Q. Eighty?

A. Eighty-one If you refer to the purchase order which is Defendant's Exhibit Z.

A. Okay.

Q. There's a price given there, is there not?

A. There is.

Q. Uh-huh. How was that price arrived at to the best of your recollection?

A. Basically factoring the manufacturing costs, adding in profit, and general administrative expenses, something I have been doing for 25 years.

Q. Yes. And in order for that purchase order to have that price included therefore must have negotiated or communicated, is that correct, with the issuing party, Delta V?

A. Yes, obviously.

Q. Obviously, before 4-8-81?

A. Yeah. There is a verbal commitment here on 3-17, I guess.

Q. You recollect meetings you had between, let's say, November of 1980 to April 10 of 1981 meetings or visits with [p. 140] Texas Instruments or Delta V regarding the Locknest?

A. I don't recall any.

Q. Is it your interpretation that you had none or you simply don't remember?

A. Little of both.

A. Are you saying it's possible you had no meetings?

A. It is possible we had no meetings.

Q. Then could you explain how these drawings came about?

A. Well, I don't have a seven-year memory bank but odds are I probably started them slightly in advance of order because the anxiety level of the customer – they were very hot to get the product.

Q. If you notice the order you'll see that it references, does it not, Plastronics drawings P2020?

A. Correct.

Q. It seemed reasonable that drawing was in existence at the time the purchase order was issued?

A. Not necessarily. It's industry standard to offer a customer a part number for reference to whatever described item it is.

Q. You refer to Defendant's Exhibit BHA?

A. Okay. I have it.

Q. Yes, you note that is Plastronics drawing P2020?

A. Okay.

Q. At least it bears the same number as that which is [p. 141] referred to in the purchase order?

A. It appears to be.

Q. BZ. There's a name Wayne Pfaff with a date 3-10-81?

A. Well, that's not my writing so I don't know who put it in there.

Q. There's also a calling card at the top of that drawing; is there not?

A. Check.

Q. You recognize that calling card?

A. That's mine.

Q. For your information this drawing was obtained from Delta V by subpoena –

A. Okay.

Q. – after efforts for you to locate it was not successful. Do you recall that?

A. Would you repeat your question?

Q. After efforts by yourself to locate this drawing were not successful?

A. I was unable to find it.

Q. Is this drawing as it's shown here an assembly drawing of your Locknest?

A. It is a proposed assembly drawing. The product didn't come out this way.

Q. It does bear, indeed, does it not, dimensions?

A. Yes.

[p. 142] Q. In fact, engineering dimensions, aren't they?

A. I would say, yes, they are.

MR. HALL: I have no further questions at this time, Your Honor.

THE COURT: Thank you, Mr. Hall.

Any redirect, Mr. Kanz?

REDIRECT EXAMINATION

BY MR. KANZ:

Q. Mr. Pfaff, as I recall the testimony there was contact between you and Mr. Wilson at Texas Instruments you said sometime around November?

A. As best I remember, yes.

Q. I believe counsel for defendant said that you were first notified there was a need for this device at this time, a leadless chip carrier burn-in board socket; is that correct?

A. No. Heard about it for five to seven years a need for.

Q. Who had you heard this need from?

A. The industry in general.

Q. So when Mr. Gary Wilson asked for you to do one for TI that wasn't your first encounter somebody needed a device at that time?

A. No.

Q. Been for a long time; is that correct?

A. Yes, they had.

Q. You identified at the time that the first device you now [P. 143] call Locknest was made what was your procedure for going from concept to engineering drawings to prototype if there was to tooling to sale? What was the procedure that was involved and who were the parties in this first manufacture of any type of the patent device that's the subject matter of the patent?

Q. Sequentially, we went from customer need to customer order place with Delta V. Delta V placing an order with me. I designed the product. Gave a product drawing to Weiss-Aug which we negotiated final fit form and this sort of thing. They tooled this product which took, I believe, about five or six months which is a new

stamping die, molds for four different parts specifying custom rivets to be able to manufacture the product and I think sometime in July that I actually had first parts in my hand.

Q. No, the drawings that we identified, discussed earlier with Mr. Hall, for example, BF, BG and BH, I believe, these are all drawings done by whom? Who drew those?

A. I drew them.

Q. For what purpose is this, the engineering drawings that the tooling was made from?

A. These were the pliminary [sic] drawings that the tooling was to have been made for but there were subsequent drawings after this. Normally designing a product like this one the original design, then like any major decision you sleep on it [p. 144] for a while, go back and review it, take a look at it. It probably took me four weeks to get.

Q. The three drawings are the first engineering drawings you have records of of the three major components of that design; is that correct?

A. That's correct.

Q. Now, was the device tooled from those drawings or Weiss-Aug make its own drawings?

A. They made their own drawings.

Q. You made these drawings, submitted these to Weiss-Aug?

A. Yes.

Q. Weiss-Aug made new drawings?

A. They went through reengineering. They had their own language in manufacturing. They liked to talk and they felt it would be a major program for them. They volunteered engineering efforts to try to help communicate what was actually needed in the components manufacturing.

Q. Even the dates that appear on these drawings like February '81, then those drawings sometime in February or March of '81 went to Weiss-Aug; is that correct?

A. Yes.

Q. And then Weiss-Aug made its own drawings?

A. Yes.

Q. Now, we have talked about tools when we have made these drawings. What are we talking about?

[p. 145] A. We are talking about a stamped metal part which requires a product die to produce. We are talking about a set of three moldings per product that require an injection mold to produce. In this particular contract we were talking about 12 moldings because they had four parts, four sets of parts.

Q. So then after you made the drawings, the ones we have identified BHA and BG – I'm sorry – BD and BF Weiss-Aug made drawings, then they had to making tooling?

A. Yes.

Q. How long does it take for them to make tooling?

A. In this particular case it was five or six months to make the program.

Q. With your experience in industry is that normal?

A. With a 12-cavity mold, brand new product I would say with a mold, that's normal. Stamping dies depends on the industry. You can normally get one in about four months but combined program in looking at injection molds, stamping dies, custom rivets and automated assembly equipment which is designed at that time it took five to six months.

Q. How many components in this device, the first one that was sold?

A. Three moldings, four rivets and either 20 springs or 32 springs.

Q. The springs all the same?

A. Right.

[p. 146] Q. You have a stamping die, you have one part, one set of drawings?

A. That's correct.

Q. You have molds for how many parts?

A. This particular one is a 12-cavity mold for four parts, 12 cavity, four family referred to it.

Q. Each device has how many parts?

A. Each device has four moldings – three moldings, four rivets and springs.

Q. So you have got a set of drawings for one part, the top or the cap?

A. Right.

Q. The one set of drawings for the tooling for the base?

A. One for the body.

Q. One for the body?

A. Plus drawings of the rivets.

Q. Rivets holding it together?

A. Custom rivets.

Q. That wasn't a standard die?

A. No. Custom-built.

Q. At the time that you received from Delta V let's assume that day – let's assume verbal offered 3-17 at that time did any one of – any component of that device that you actually sold to him later, did any of those components actually exist?

[p. 147] A. No. All custom design. It's a brand new development program.

Q. So as far as 3-17-81, May 17, '81 there was not a single part in existence?

A. No No parts until July.

Q. April 19th which is a month later, during the month is there any possibility that they could have made tooling and made drawings, made tooling and made parts and delivered to you a completed device?

A. No.

Q. Did you ever make prototypes of this device?

A. No.

Q. You went directly from drawings submitted to Weiss-Aug?

A. They wanted parts. No, we didn't prototype. Went directly to tooling.

Q. So when to the best of your recollection or your records did you first receive assembled devices?

A. Sometime in July of 1981.

Q. That was the first order came from where?

A. Weiss-Aug.

Q. What did you do when you got there?

A. I imagine I shipped the parts to Delta V this particular purchase order after we had gone through testing.

Q. What kind of testing did you do?

A. Mechanical cycling. Went to independent testing lab. I [p. 148] had a machine that would cycle the product because I was very concerned about having this inneredge as a knife cutting through the cap. That was the one area I thought was high risk. I put this in a machine and cycled it 72,000 times and took it apart to see how much adverse wear was there. I was relieved to find it was shiny, no wear. I felt mechanically I had a good product.

Q. Mechanical testing only?

A. I didn't have the facility for thermal or electrical.

Q. Using a burning oven?

A. Didn't have a burning chamber.

Q. That had to occur after you delivered the devices to Delta V and they assembled the board and delivered it to Texas Instruments; is that correct?

A. That's correct.

Q. Let's look at this document, that's Defendant's BZ, Plaintiff's 20; is that correct?

A. Okay.

Q. I believe opposing counsel pointed out at the top of that document it says "Confirmation of Order Placed verbally 3-17-81"?.

A. That's probably what happened.

Q. At the time you – I assume you received this in your office, the original of this document?

A. Yes.

[p. 149] Q. Is that correct?

A. Well, at that time it was at my home working out of the house.

Q. There is some notation on the bottom starting about No. 11 on that socket. Can you read that?

A. "All sockets to be similar to Plastronics drawing No. P2020. Body material to be Ryton. Contacts to be BeCu and contact material to be capable of at least 175

degrees. All sockets being purchased with the understanding that said sockets will meet the original engineering criteria of TI applications or be returned for the full refund with no liability whatsoever."

Q. That's what it said. What did you understand that to mean?

A. If it works, they buy it. If it doesn't work, they don't.

Q. I believe you said you finally delivered some of these somewhere late July or August?

A. True. And also believe the other guy bidding on the contract had his order canceled.

Q. Any doubt in your mind, Mr. Pfaff, any one of the four components that make up this device was actually in existence on the date of April 19, 1981?

A. No way.

Q. Had any testing been done on this assembled device that [p. 150] didn't exist on April 19, 1981?

A. No.

Q. At this time did you know if this device was going to satisfy those requirements of TI?

A. Sort of like all new products. You really never know until you get through with it.

Q. You don't know until it's tested?

A. That's right. New products are like babies. They're going to get wet their pants and you never know when.

Q. No physical part of this device existed prior to April 19, 1981?

A. No.

Q. You had drawings and concept only?

A. Check.

MR. KANZ: Pass the witness.

THE COURT: Thank you, Mr. Kanz.

Any recross, Mr. Hall?

MR. HALL: Just a couple.

RECROSS EXAMINATION

BY MR. HALL:

Q. I understand your testimony, Mr. Pfaff. The molds you were working on were 12-cavity molds, correct?

A. Yes, sir.

Q. Those were production molds, aren't they?

A. Production molds.

[p. 151] Q. That's not for sampling. Those are used to make products?

A. Used to make a product.

Q. At that time you had some confidence as you indicate in your deposition earlier that it was go; is that correct?

A. Yes, sir. I had a high confidence level with the product. Like any businessman sometimes you have to take a risk.

Q. Now with respect to purchase order Exhibit BZ?

A. Okay.

Q. There was a proviso in there if they did not produce certain standards it could be returned?

A. Yes, sir.

Q. What if you provide a product for a customer that doesn't work can that cutomer [sic] return it and get its money back?

A. The customer never pays for it in the first place. You make the product, you ship it to him. If he likes it he'll pay for it. If he doesn't like it he returns the product. Money never changes hands until after testing and approval.

Q. It's standard, is it not, when you provide a product to someone if that product does not meet the standards, in other words fails, no matter what it is they can get their money back normally; is that correct?

A. Certainly.

[p. 152] Q. Yeah.

A. Normal business.

Q. Normal business for established products as well as others?

A. Well, even development, products when they have got a stipulation like.

Q. So really that stipulation we see there is really a standard stipulation that applies to all types of products in general terms?

A. If the product is defective you expect to return it. I would; you would.

MR. HALL: No further questions.

THE COURT: Thank you, sir.

Any final redirect?

MR. KANZ: One question.

BY MR. KANZ:

Q. If standard product is defective don't you generally replace it?

A. In terms of the contract with the standard product is we'll replace the product after thirty days – within 30 days. If it's returned defective we'll refund the money.

Q. You never made this device before as in Plaintiff's Exhibit 20, had you?

A. No, sir.

Q. Did you know what it was being made for?

[p. 153] A. Yes.

Q. You had discussed it with TI representatives?

A. Yes.

Q. They gave you the criteria it had to fill?

A. Yes.

Q. You understood it was a new device?

A. Yes.

Q. Make it clear to TI it was a new device?

A. Yes. They knew it when they were looking for it for five years.

Q. Did you consider it a commercial device or development contract with TI?

A. A development contract for TI.

Q. It did turn out to be a commercially viable device after it passed the test?

A. Yeah.

MR. KANZ: Pass the witness.

THE COURT: Thank you, sir.

Any final recross?

MR. HALL: No further questions.

THE COURT: Thank you, sir.

You may step down again, Mr. Pfaff. Thank you.

MR. KANZ: Your Honor, the plaintiff rests its case at this point.

THE COURT: Thank you, sir.

[p. 154] Mr. Hall, the Plaintiff has rested. Do you wish to call your first witness?

MR. HALL: If I may have a few moments to get some exhibits in order for Mr. Midili. Could we have approximately ten minutes?

(Recess.)

THE COURT: You may be seated.

Mr. Hall, you may proceed.

MR. HALL: The defendant calls as its first witness Mr. Arthur Midili.

ARTHUR MIDILI, DEFENDANT'S WITNESS, SWORN

DIRECT EXAMINATION

BY MR. HALL:

Q. Mr. Midili, will you state your full name and address, please?

A. My name is Arthur Ar. Midili. I live at 52319 Skyline Court, South Bend, Indiana.

Q. Mr. Midili, is this the first time you have appeared as a witness on the stand?

A. Yes, it is.

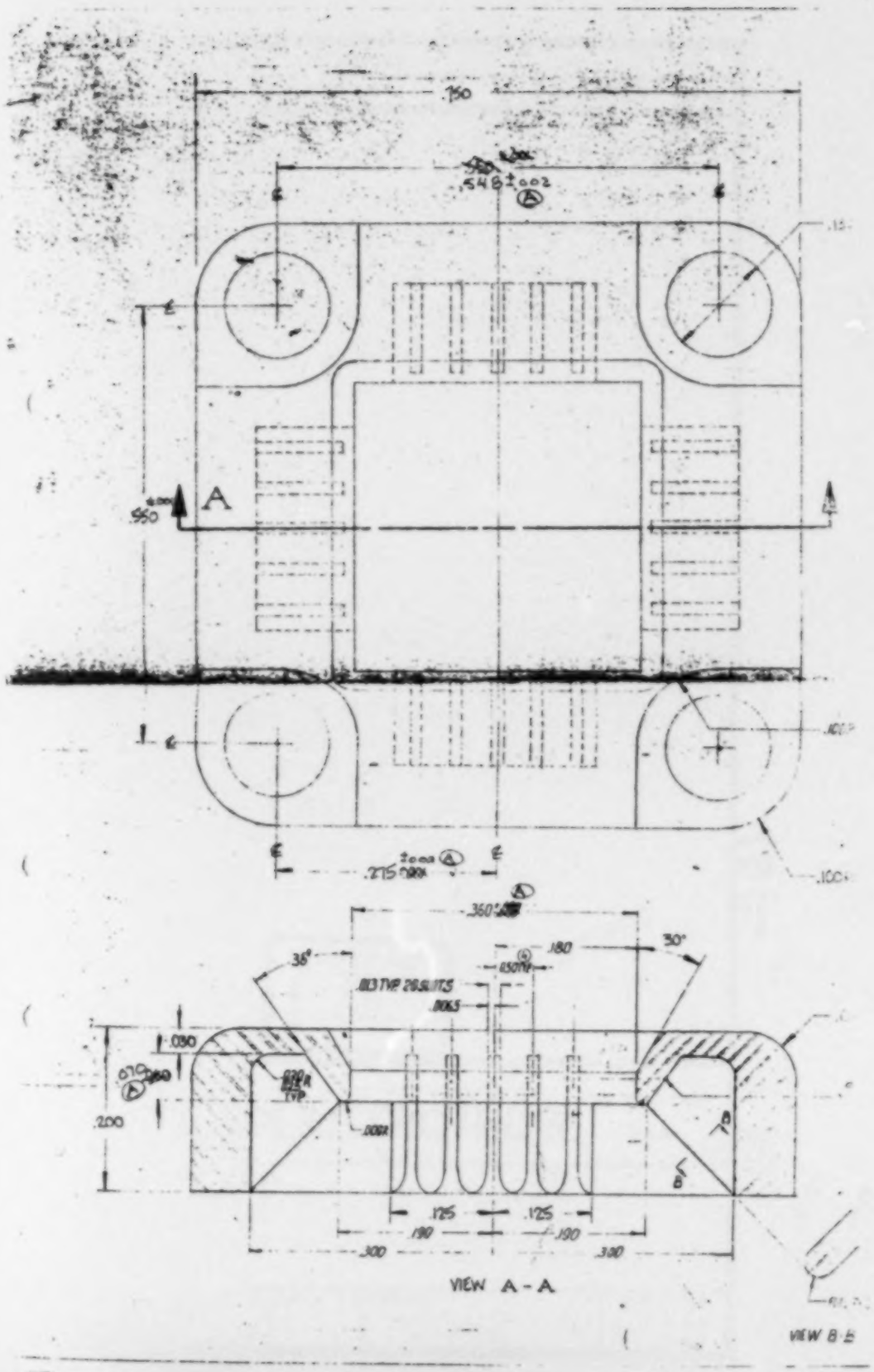
Q. Is it a new experience for you?

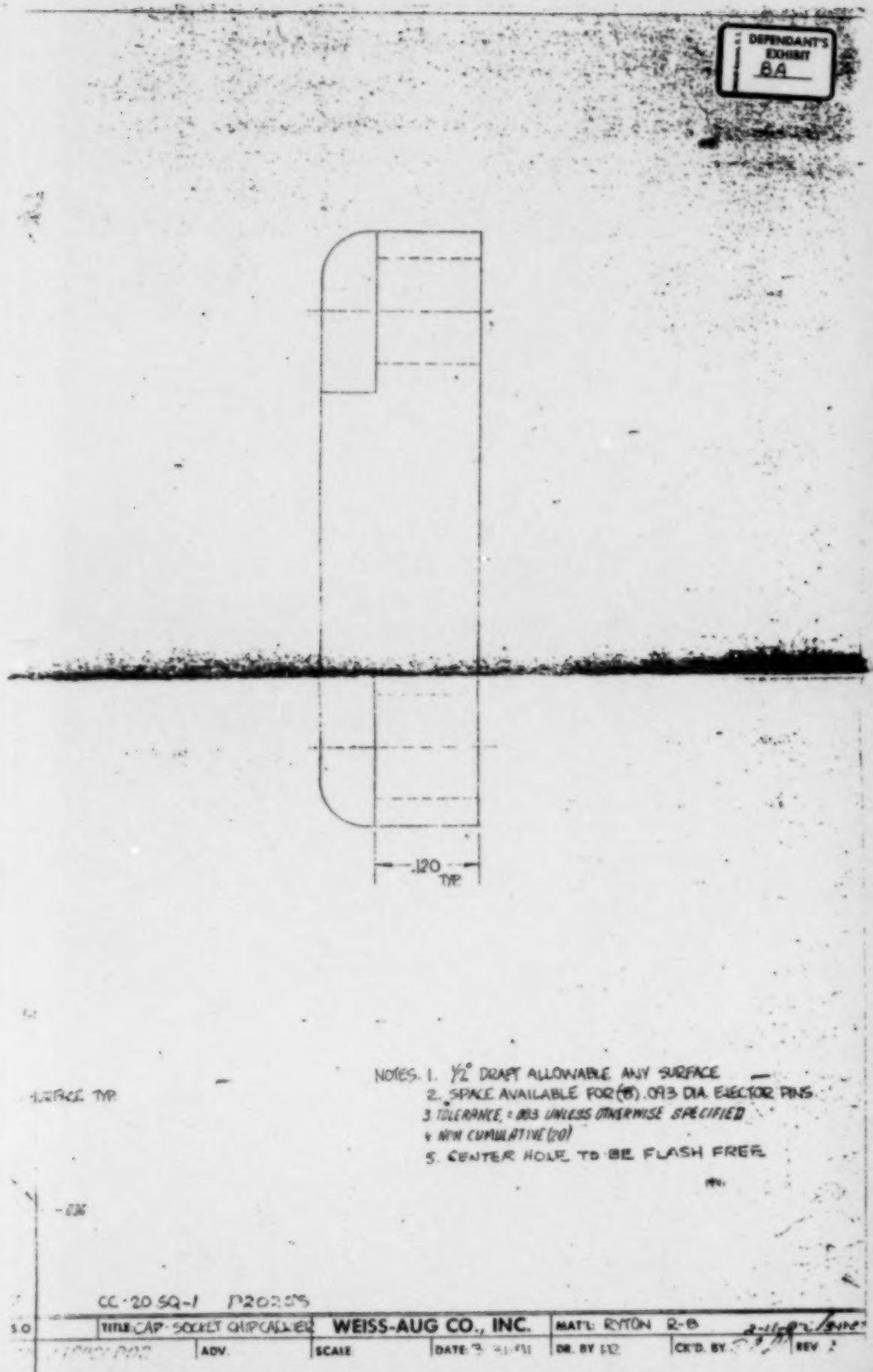
A. Yes.

Q. What position do you now hold with respect to Wells Electronics?

A. I'm the president and chief executive officer of Wells

* * *





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NOTES

REVISIONS					
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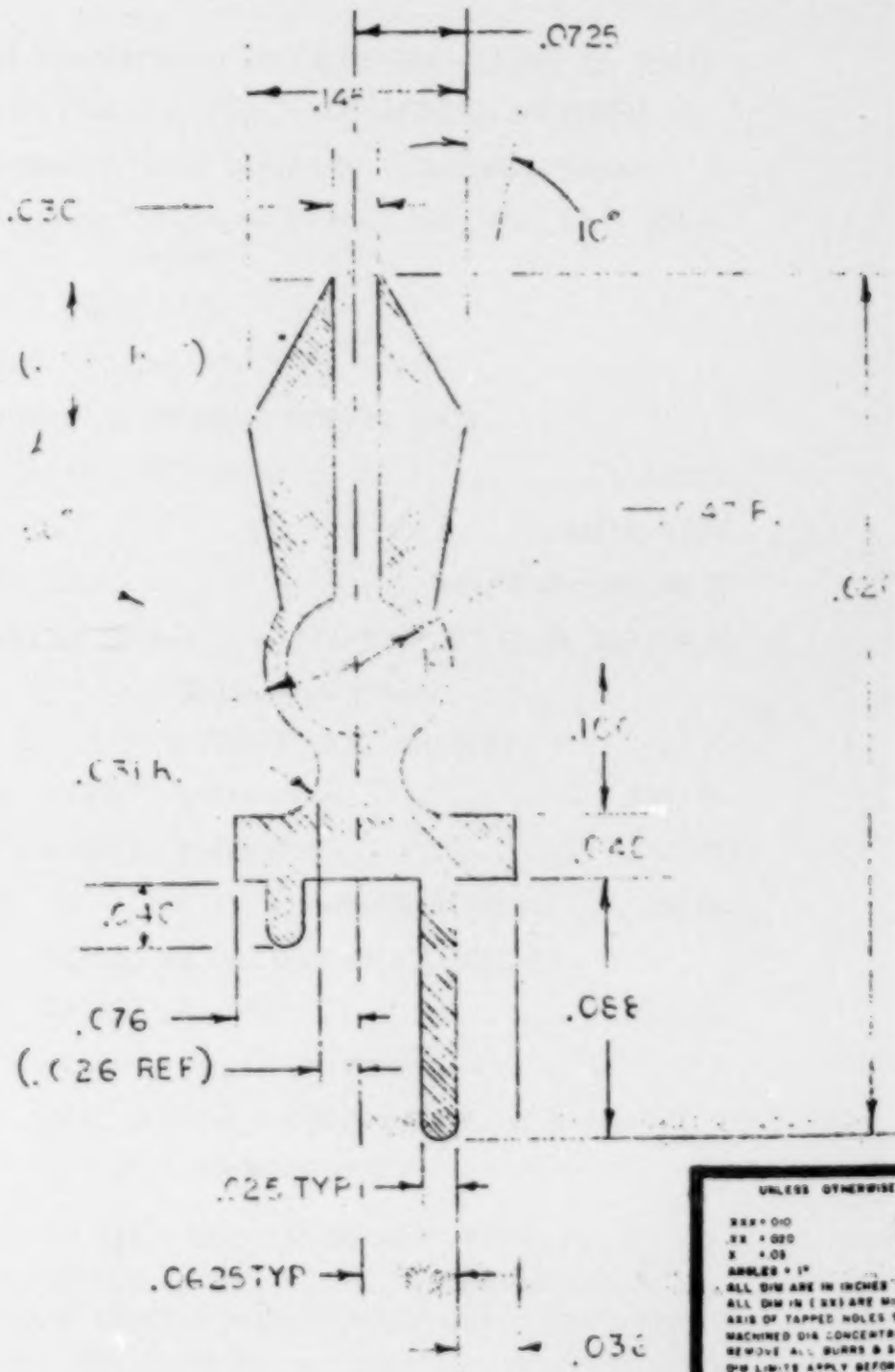

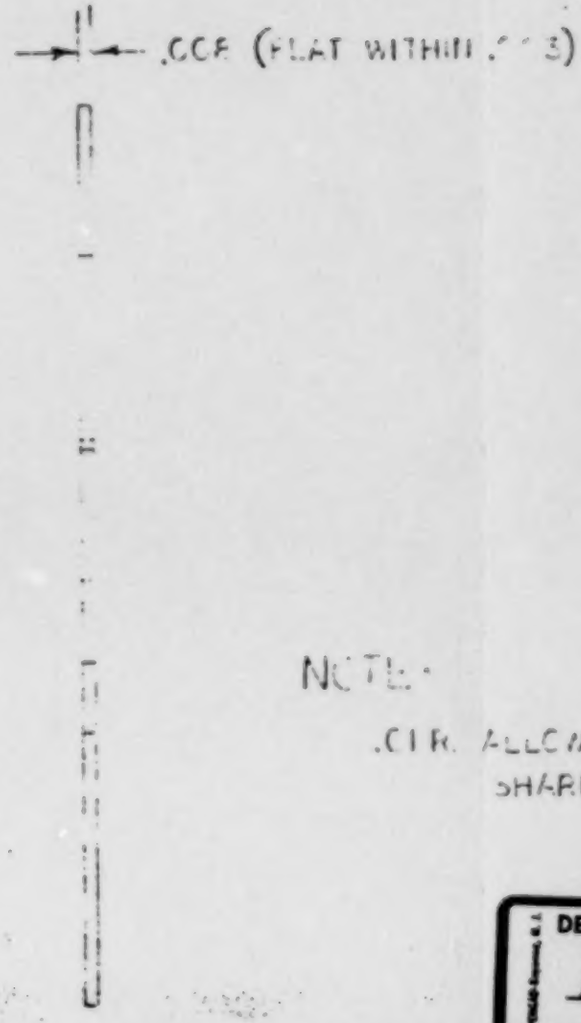

NOTE:
.01 R. ALLOWABLE ON ALL SHARP CORNERS

DEFENDANT'S EXHIBIT BE

UNLESS OTHERWISE SPECIFIED
.XXX ± .010 SURFACE FINISH
.XX ± .020
X ± .05
ANGLES ± 1°
ALL DIM ARE IN INCHES
ALL DIM IN (XX) ARE MILLIMETERS
AXIS OF TAPPED HOLES 90° ± 1°
MACHINED DIA CONCENTRICITY .004 TIR
REMOVE ALL BURRS & SHARP EDGES
DIM LIMITS APPLY BEFORE PROCESSES

HOLE TOLERANCES

0135	THRU	125	+.004 -.001
126	THRU	.250	+.005 -.001
251	THRU	.500	+.006 -.001
501	THRU	.750	+.008 -.001
751	THRU	1.000	+.010 -.001
1.001	THRU	2.000	+.012 -.001

MATERIAL: [illegible] FULL TEMPER

PROCESSES: SYLEF PLATE .0000[illegible]

				DWN	DATE
				CHK	
				ENGR	
NEXT ASSY	USED ON	-1	-2	APVD	
APPLICATION		QTY		SCALE 10 X	

PLASTRONICS DALLAS, TEXAS U.S.A.

TITLE: CONTACT-CHIP (ASSEMBLY [illegible])

SIZE	COD ID NO	DWG NO	REV	SH
B		P2002	—	1/1

B DWG NO

[United States Patent No. 4,262,984 – April 21, 1981]

[54] ELECTRIC CONTACT TERMINAL MEMBER

[75] Inventor: Toru Takahashi, Yokohama, Japan

[73] Assignee: Yamaichi Electric Mfg. Co., Ltd., Tokyo Japan

[21] Appl. No.: 59,036

[22] Filed: Jul. 19, 1979

[30] Foreign Application Priority Data

Jul. 19, 1978 [JP] Japan 53-87053

[51] Int. Cl.³ H01R 4/24

[52] U.S. Cl. ..... 339/97 R; 339/99 R

[58] Field of Search ..... 339/97 R, 97 P, 98, 339/99 R

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Primary Examiner – Eugene F. Desmond

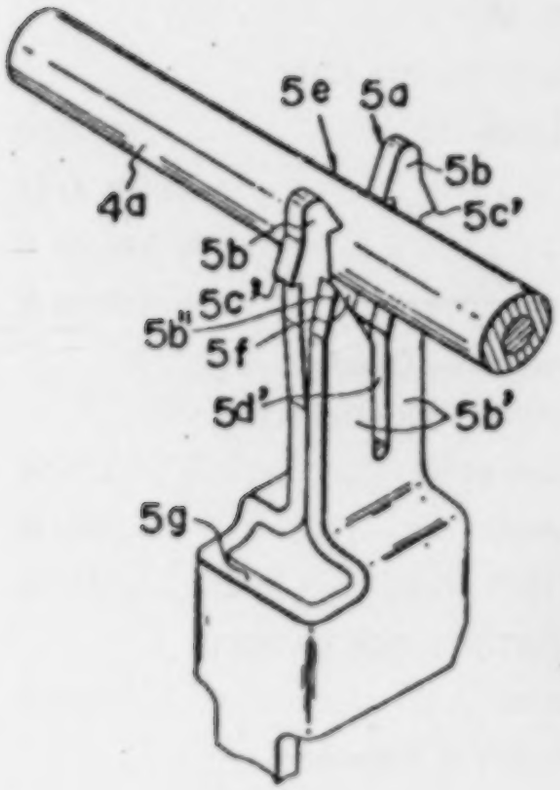
Attorney, Agent, or Firm – Wenderoth, Lind & Ponack

[57] ABSTRACT

In a press-in type terminal member for a single core cable, a temporary holding space is formed between contact arms and above a conductor press-in slot, to temporarily hold the cable before press-in operation. The terminal member may have an outward projection which

forms another temporary holding space in cooperation with an adjacent terminal member, to hold another cable for a second row of terminals which is staggered from the first row of terminals.

4 Claims, 13 Drawing Figures



DEFENDANT'S EXHIBIT ABY
3:91-CV-1542-H

ELECTRIC CONTACT TERMINAL MEMBER

BACKGROUND OF THE INVENTION

The invention relates to an electric contact terminal member having at least one pair of contact arms which forms a conductor press-in slot therebetween for a single core cable.

When a connector has many conductor press-in type contact terminal members, each specific cable must be pressed in each conductor press-in slot of a specific terminal member. Thus the operation is tedious and time consuming. To press-in some of the cables, a special jig must be prepared to arrange and temporarily hold necessary cables. In this case, the jig must be removed from the completed connector, and when the holding of the jig is stable, the removing operation is not easy. Unstable cables tend to drop off or cause positioning errors.

SUMMARY OF THE INVENTION

The object of the present invention is to provide an electric contact terminal member of the type specified and having temporary holding means to hold the cable before the cable is pressed into the conductor press-in slot.

According to the present invention, the inlet portion of the conductor press-in slot between the contact arms of the terminal member is broadened to accommodate the cable without damaging the insulation thereof. The inlet end portion of the slot has projections to hold the cable. Thus, the broadened inlet portion and the projections cooperate to form a temporary holding space for the cable.

As the cable can be pushed into the temporary holding space, arrangement and positioning of the cable with a specific terminal member is very easily performed. As the temporary holding space is on the inlet side of the conductor press-in slot, rearrangement of the cable is unnecessary. All cables are pressed into conductor press-

in slots by one operation, after the cables are held in the temporary holding spaces.

According to one embodiment of the present invention, the contact arm of the terminal member has an outward protection which cooperates with a projection of an adjacent terminal member to form another temporary holding space. When a connector has two rows of the terminal members, all the cables are held by two temporarily holding spaces, so that precise positioning and aligning of the cables can be easily performed.

According to another embodiment of the present invention, another pair of the contact arms having pointed ends and a conductor press-in slot are in parallel with the first pair of the contact arms having the temporary holding space. The press-in operation of all cables is easily performed.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention is described in detail below with reference to the accompanying drawings which illustrate specific embodiments, and in which:

FIG. 1(A) is a partially broken perspective view of the basic construction of an electric contact terminal in accordance with the invention;

FIG. 1(B) is a partially broken perspective view of the terminal shown in FIG. 1(A), shown in a position temporarily holding a cable;

FIG. 1(C) is a partially broken perspective view of the terminal shown in FIG. 1(A), shown in a position with the cable a pressed-in;

FIG. 1(D) is a partially broken perspective view of a plurality of the terminals shown in FIG. 1(A), showing another position for temporarily holding the cable;

FIG. 2(A) is a perspective view of a second embodiment of the electric contact terminal in accordance with the invention;

FIG. 2(B) is a perspective view of the backside of the terminal shown in FIG. 2(A);

FIG. 2(C) is a partially broken perspective view of the terminal shown in FIG. 2(B), shown in a position temporarily holding a cable;

FIG. 3 is a perspective view of an insulating block for an electric connector, showing a plurality of the terminals shown in FIG. 2;

FIG. 4 is a perspective view of the electric connector shown in FIG. 3;

FIG. 5 is a sectional view of the connector shown in FIG. 4, taken along line B – B of FIG. 7;

FIG. 6 is a sectional view of the connector shown in FIG. 4, taken along line C – C of FIG. 7;

FIG. 7 is a sectional view of the connector shown in FIG. 4, taken along line A – A of FIG. 4;

FIG. 8(A) is a partially broken front view of terminals in accordance with another embodiment of the present invention; and

FIG. 8(B) is a side view of the terminal shown in FIG. 8(A).

DETAILED DESCRIPTION OF THE INVENTION

Referring now to FIG. 1 a conductor press-in type electric contact terminal 5*a* is an integrally pressed member formed from a metal plate and has a pair of integral arms 5*b* which form a cable holding slot 5*e* and a conductor press-in slot 5*d* below the cable holding slot 5*e* between the arms 5*b*. The cable holding slot 5*e* has sufficient width to receive a single core cable 4*a* without damaging the insulation of the cable as shown in FIG. 1(B). The arms 5*b* have opposed temporary holding projections 5*c* which project into the cable holding slot 5*e*, to temporarily hold the cable 4*a* in the cable holding slot 5*e*. The arms 5*b* may also have additional temporary holding projections 5*c'* at the outside wall edges, to temporarily hold another cable in cooperation with an adjacent terminal in another temporarily holding space 5*f* (see FIG. 1(D)). When the cable 4*a* is pressed into the conductor press-in slot 5*d* below the temporary holding slot 5*e*, the insulation of the cable 4*a* is broken, and conductor in the cable is exposed to firmly electrically contact with the walls of the slot 5*d*, as shown in FIG. 1(C). Clearly the opening width between the opposed projections 5*c* or 5*c'* is narrower than diameter of the cable 4*a*. Thus, when the cable 4*a* is pressed in the temporary holding space 5*f* or 5*f*, the cable is held against irregular movement before the press-in process, so that arrangement of the cables before press-in is very easy.

Referring now to FIGS. 2(A) to 2(C), the electric contact terminal 5*a* shown in FIG. 1 contacts with another terminal which has a pair of arms 5*b'*. The terminal 5*a* is integrally connected with the other terminal by a side plate 5*g* from which projects a female terminal 5*h*. The

terminals, side plate and the female terminal are formed by press working from a metal plate and are formed into one terminal member. The arms 5*b'* form a conductor press-in slot 5*d'* therebetween, and each arm 5*b'* forms a pointed end 5*b"* to break insulation of the cable 4*a*. As shown in FIG. 2(B), the conductor press-in slot 5*D'* is below the temporary holding slot 5*e* between the arms 5*b*. Thus the cable 4*a* is held in the temporary holding space 5*f* formed by the temporary holding slot 5*e* and the temporary holding projections 5*c*, as shown in FIG. 2(C). The female terminal 5*h* may be a male terminal or a soldered terminal as necessary. In this case, outwardly projected temporary holding projections 5*c'* are formed to the arms 5*b*, to hold another cable in cooperation with an adjacent terminal member, as shown in FIG. 1(D). This structure is preferable when two rows of terminal members are arranged and the terminal members of one row are staggered from the terminal members of another row. In this case each cable is temporarily held by the temporary holding projections 5*c* of one row and by the temporary holding projections 5*c'* of another row. Thus, each cable is temporarily held in two temporarily holding spaces 5*f* and 5*f*.

FIG. 3 shows the lower half of a connector having two rows of the terminal members shown in FIG. 2 and FIG. 4 shows an assembled connector 1 which has a male insulation block 2 and a female insulation block 3 shown also in FIG. 3. The terminal members of one row are staggered from the terminal members of the other row so that each single core cable 4*a* is held by the temporary holding space 5*f* of the terminal member of one row and the temporary holding space 5*f* between two terminal

members of the other row. As shown in FIG. 4, each cable is held between the blocks 2 and 3 in vertically staggered relation with an adjacent cable. The blocks 2 and 3 form vertically staggered high position cable supports 2*b* and 3*a* and low position cable supports 2*a* and 3*b*. When the blocks 2 and 3 are assembled, one high position cable support of one block cooperates with one low position cable support 2*a* or 3*b* of the other block to hold each cable between each opposed high position cable support 2*b* or 3*a* and the low position cable support 2*a* or 3*b*. Thus, one cable which is pressed in and electrically connected with one of the terminal members of one row is engaged with one of the low position cable supports 3*b* outside the terminal member and is supported by one of the high position cable supports 2*a* of the male block 2. As to the same side of the block 3, a cable which is held by the temporary holding space 5*f* between the terminal members of the one row and is pressed in and connected with one terminal member of the other row, is supported by the high position cable support 3*a* of the block 3 and the low position cable support 2*b* of the other block 2. Thus, as shown in FIGS. 5 and 6, each cable is bent upwards and downwards alternately to form a vertically staggered relation.

To assemble the connector 1, each cable 4*a* is placed on a desired terminal member of the insulation block 3 and is pressed by fingers of an operator into the temporary holding space 5*f* of the terminal member and also into the temporary holding space 5*f* between the terminal members of the other row. Thus, cables are held in place regularly by the temporary holding projections 5*c* and 5*c'*.

Then the male insulation block 2 covers the female insulation block 3 and presses the cables into desired positions. Insulations of the cables are destroyed by the pointed ends 5*b''* of the arms 5*b'* of the terminal members, and conductors of the cables are pressed into the conductor press-in slots 5*d* and 5*d'* of the terminal members.

As shown in FIG. 7, the outside temporary holding projections 5*c'* of the arms 5*b* of the terminal members engage elastically with vertical walls of the male insulation block 2 when the blocks 2 and 3 are assembled to form the connector 1, to maintain the connector integral 1 and to prevent rattling between the blocks 2 and 3. In the embodiment shown in FIG. 7, recesses 6 formed between vertical walls of the block 2 each has a width which is slightly narrower than the normal outside width of the terminal member so that when the block 2 presses the cables into the press-in positions, the outer temporary holding projections 5*c'* engage with the vertical walls of the block 2 by elastic deformation of the arms 5*b*. At the end of the press-in operation, the projected ends of the projections 5*c'* engage with stepped recesses 6*a* which are formed in the vertical walls of the recess 6 of the block 2 by elastic rebounding of the arms 5*b* of the terminal member. Thus, the blocks 2 and 3 are locked tightly without further means to lock the blocks 2 and 3 to each other.

FIG. 8 shows another embodiment of the terminal member in accordance with the invention. In the drawing, the same reference numerals are used to show like elements shown in the drawings of the previous embodiments. The terminal member shown in FIG. 8 also has

two arms 5*b* which form between them a temporary holding slot and a conductor press-in slot as before. The terminal member has side plates 5*i* which are integrally formed with the arms 5*b* by being bent perpendicularly to arms 5*b*. The opposed inside surfaces of the side plates 5*i* form inwardly projected temporary holding projections 5*c* and the outside surfaces of the side plates 5*i* form outwardly projected temporary holding projections 5*c'*. In this case, dimensions of the projections 5*c* and 5*c'* in the longitudinal direction of the cable can be increased as desired to hold the cable safely without damaging the insulation of the cable. The arms 5*b* are reinforced by the side plates 5*i*. Inside surfaces of the side plates 5*i* guide the side surfaces of the cable so that the cable is held in a desired direction in a connector having only one row of the terminal members. Thus, the temporary holding and positioning effects of the cable by the terminal member are substantially increased.

It will be appreciated that a single core cable to be pressed in is temporarily held in the temporary holding space of the terminal member according to the present invention before the cable is pressed into the cable press-in slot 5*d* or 5*d'* of the terminal member. Thus, positioning of the cable before the press-in operation is very easily achieved.

When many cables are to be pressed into desired specific terminal members of a connector, the cable arranging operation is easily performed by temporarily holding each cable in a temporary holding space of a specific terminal member before all cables are pressed into desired cable press in slots of the terminal members

by one operation. Thus, the assemble operation is substantially simplified.

I claim:

1. An electric contact terminal member for accommodating therein a single core cable having electric insulation, side terminal member comprising:

a first metal plate having formed therefrom a first pair of contact arms defining therebetween a first slot said first pair of contact arms;

said first slot including an inlet portion extending inwardly from said open outer end of said first slot, said inlet portion being dimensioned to receive and grasp a single core cable including insulation thereof without damage to the insulation;

said first slot including a press-in portion extending inwardly from said inlet portion, said press-in portion being dimensioned to, upon the cable being pressed thereinto, receive the core of the cable, while the cable insulation is broken by facing edges of said first pair of contact arms;

said first pair of arms having adjacent said outer ends thereof integral projection means extending into said inlet portion of said first slot for aiding in grasping the cable;

said inlet portion of said first slot and said projection means forming temporary holding means for enabling accurate positioning of the cable before the cable is pressed into said press-in portion;

a second metal plate having formed therefrom a second pair of contact arms defining therebetween a second slot having an open outer end

adjacent outer ends of said second pair of contact arms;

first metal plate, with said second pair of contact arms parallel to said first pair of contact arms, and with said second slot parallel to said first slot;

said second slot being dimensioned to, upon the cable being pressed thereinto, receive the core of the cable, while the cable insulation is broken by facing edges of said second pair of contact arms; and

said outer ends of said second pair of contact arms being outwardly pointed to facilitate breaking of the cable insulation upon the cable being pressed from said temporary holding means into said press-in portion of said first slot and into said second slot.

2. A terminal member as claimed in claim 1, wherein said first and second metal plates are in abutting contact with each other.

3. A terminal member as claimed in claims 1 or 2, wherein said first and second metal plates are integrally formed of a single metal element.

4. A terminal member as claimed in claim 1, wherein said first pair of arms have adjacent said outer ends thereof outwardly extending projections for cooperation with adjacent separate terminal members for holding other cables.

* * *

FIG.1 (A)

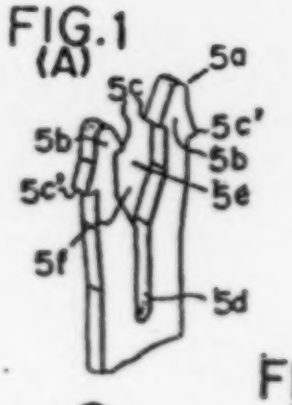


FIG.1 (B)

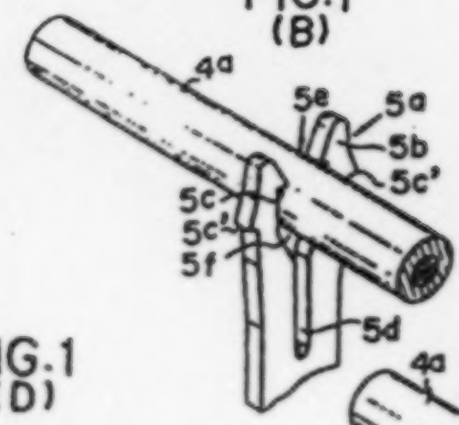


FIG.1 (C)

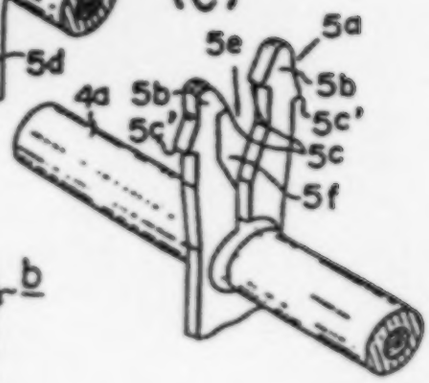


FIG.1 (D)

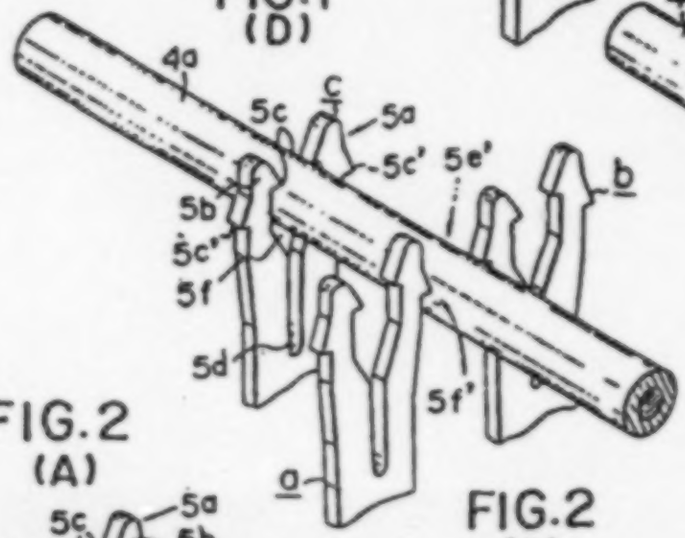


FIG.2 (A)

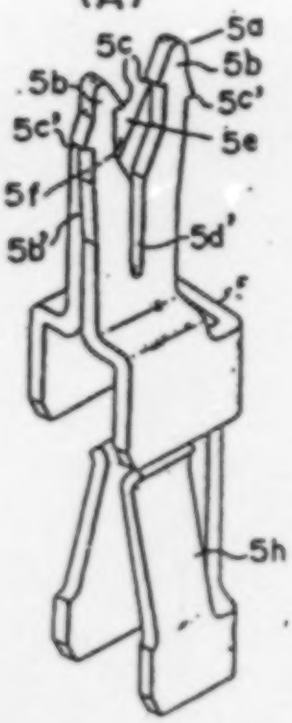


FIG.2 (C)

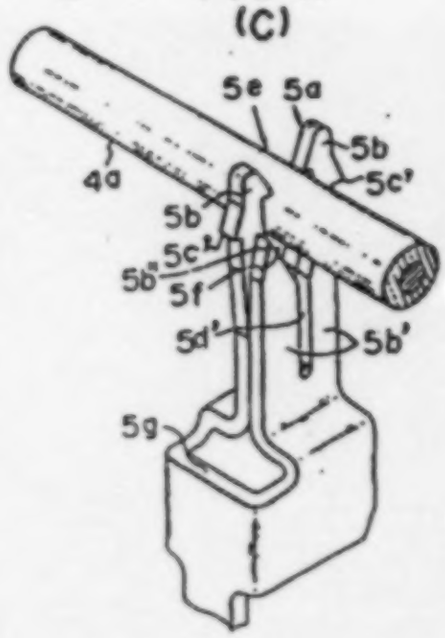


FIG.2 (B)

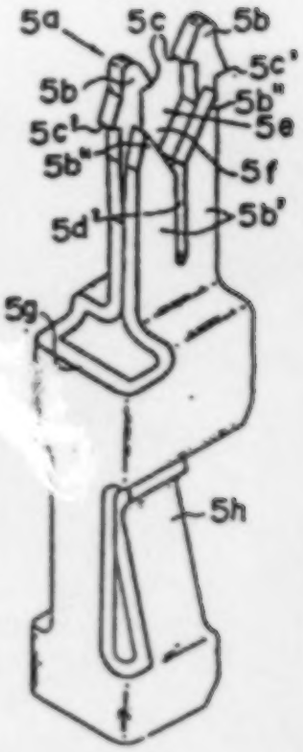


FIG.3

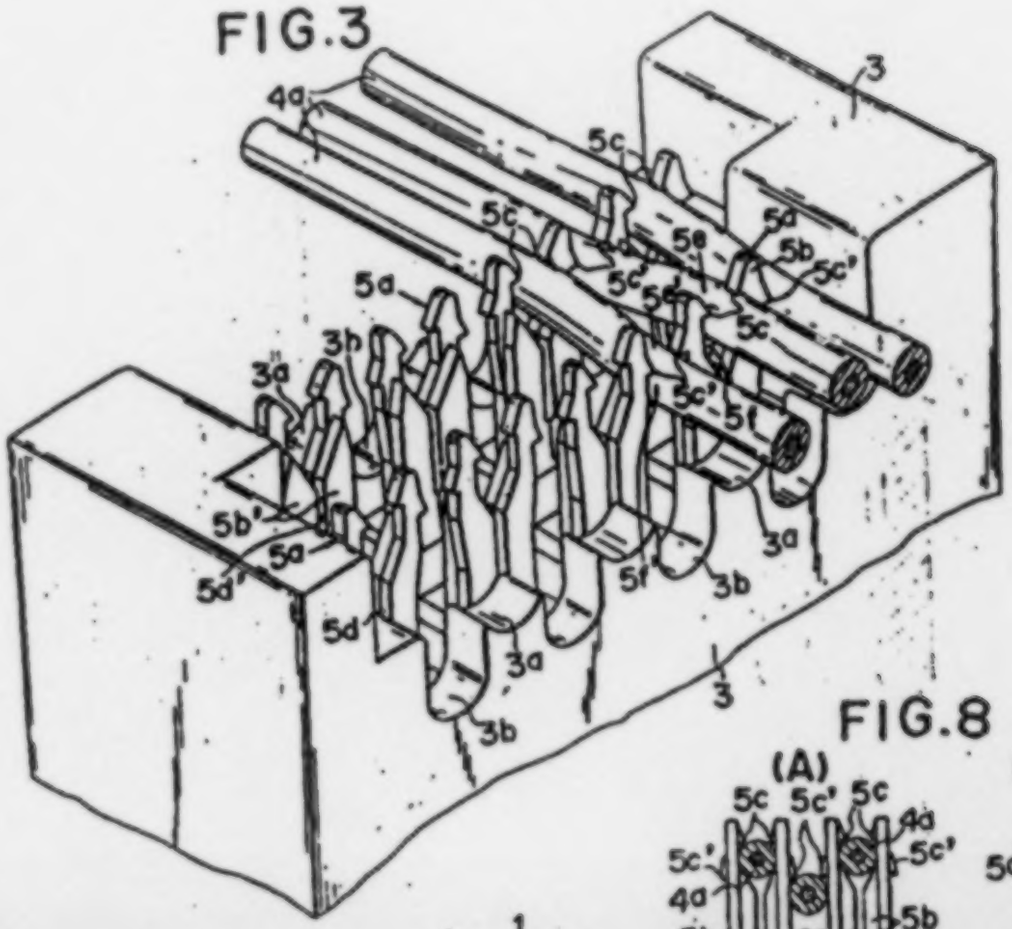


FIG.4

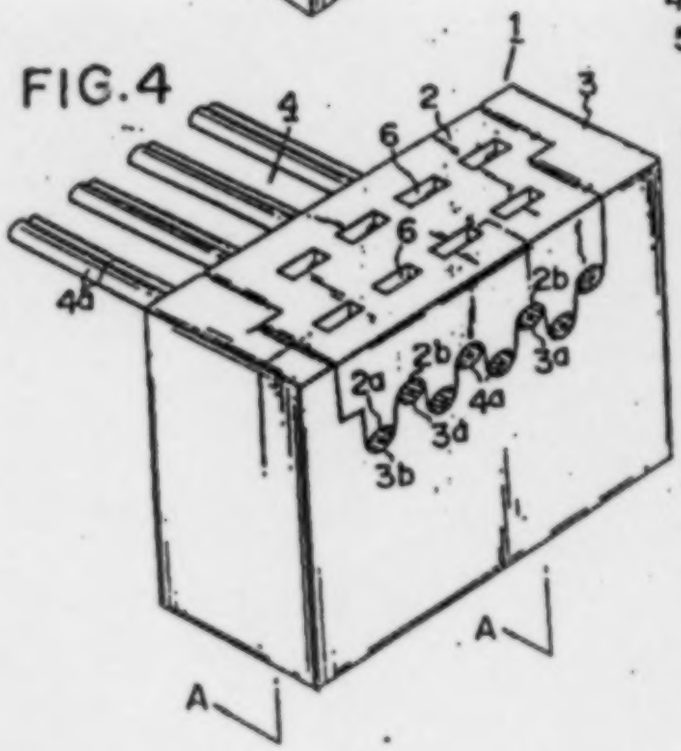


FIG.8

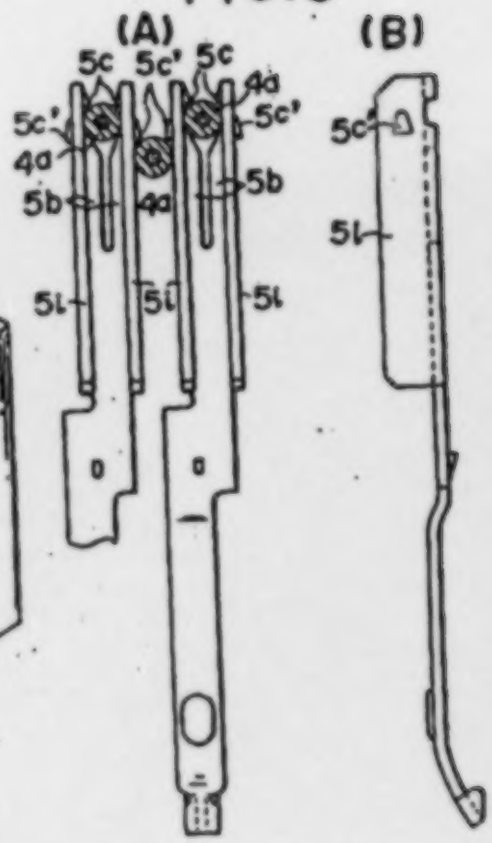


FIG. 5

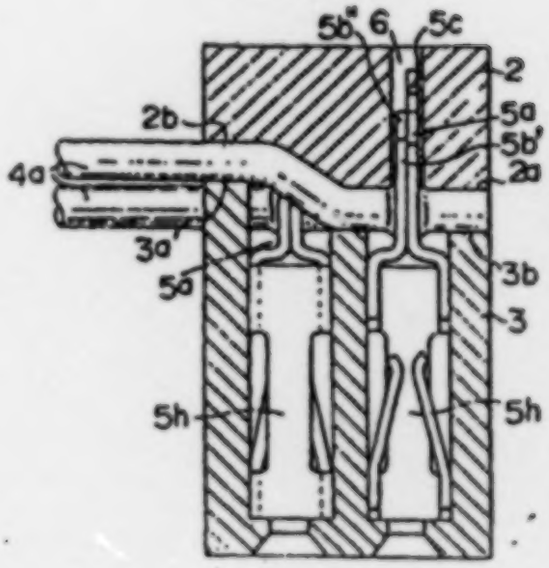


FIG. 6

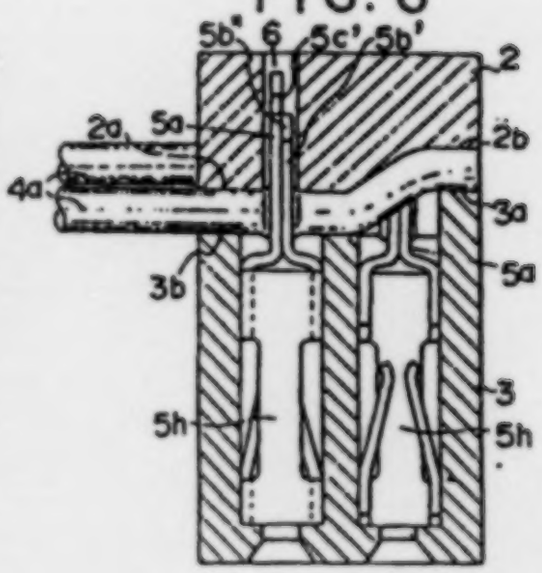
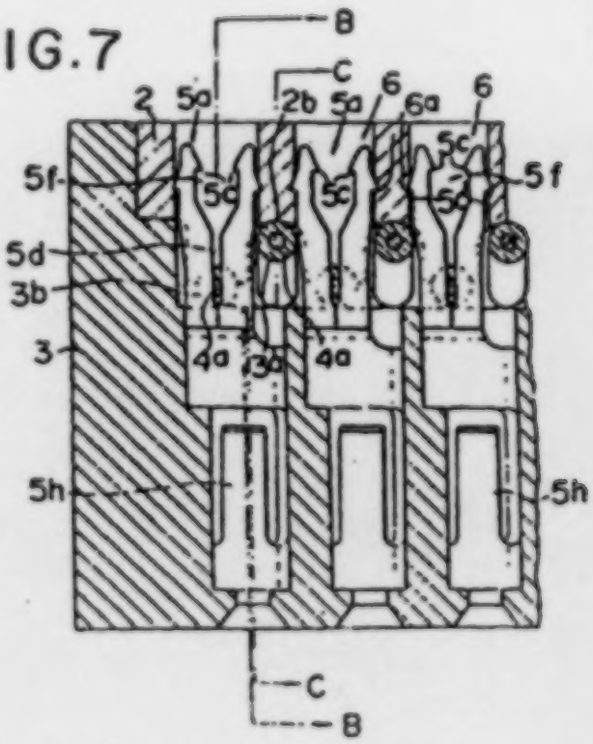


FIG. 7



Nov. 9, 1965 F. V. FRICKER, JR 3,216,580

MECHANICAL APPARATUS

Filed Nov. 29, 1963

FIG. 1

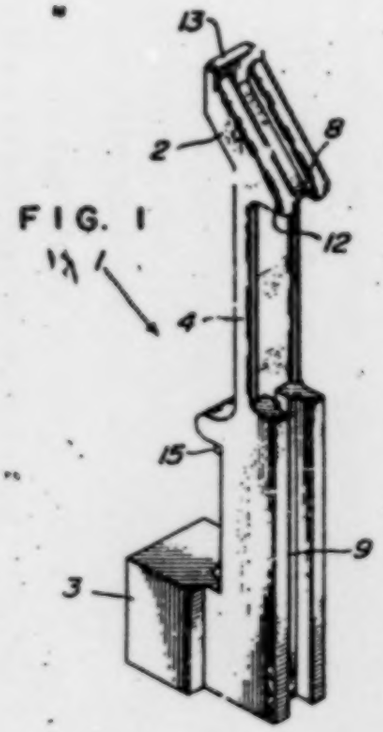


FIG. 3

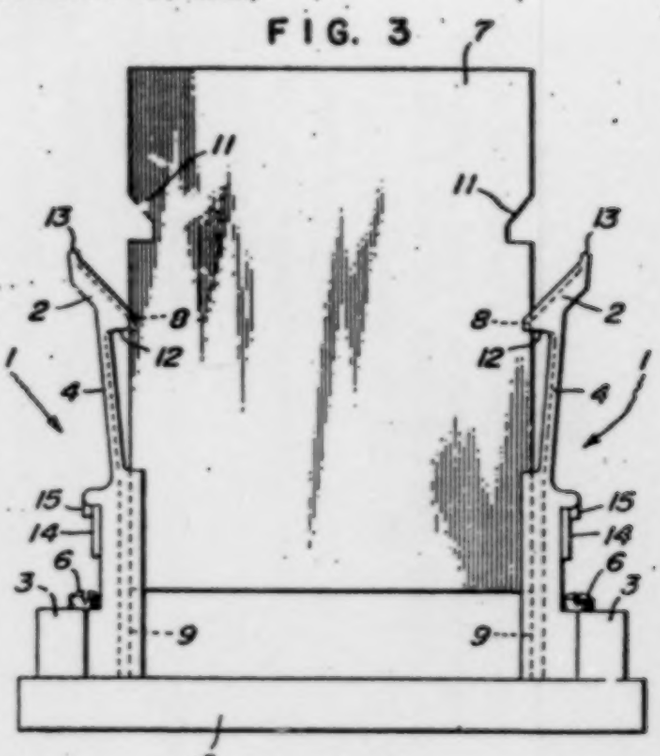


FIG. 2

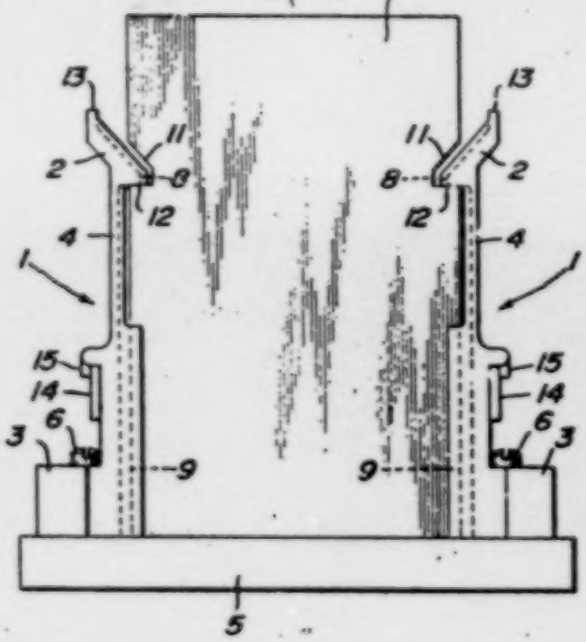
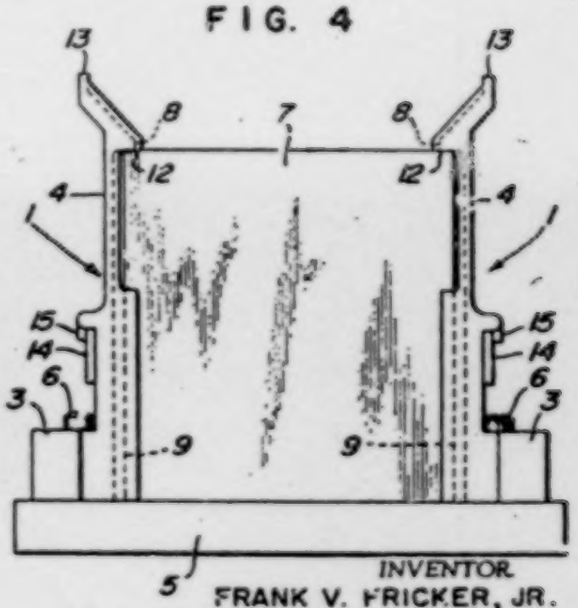


FIG. 4



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DEFENDANT'S EXHIBIT Z

140

United States Patent Office 3,216,580
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3,216,580

MECHANICAL APPARATUS

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Filed Nov. 29, 1963, Ser. No. 326,039
4 Claims. (Cl.211 – 41)

This invention, relates to mechanical supports. More specifically, the present invention, relates to support devices for retaining card-like devices.

An object of the present invention is to provide an improved card device support.

Another object of the present invention is to provide an improved card element retaining means for receiving and supporting card members in a fixed position.

A further object of the present invention is to provide an improved card element support apparatus for automatically retracting a card member in a predetermined fixed position.

Another further object of the present invention is to provide an improved card element support means having easy and rigid card insertion and removal capability.

Still another object of the present invention is to provide an improved card element support means, as set forth herein, having a simple operation and construction.

In accomplishing these and other objects, there has been provided, in accordance with the present invention,

a unitary card element support means comprising a base member and an upper member joined by a flexible segment. The base and upper members are provided with similar card admitting grooves therein. However, the bottom of the groove in the upper member is not aligned with the bottom of the groove in the lower member and is normally disposed to interfere with the edge of a card element inserted in the groove in the lower member. The flexible segment is arranged to provide a displacement of the upper member to align the bottoms of the aforesaid grooves during the insertion of a card device. Subsequently, the flexible segment is effective to return the upper member to a normal position to cooperate with a portion of the card device whereby to retain the card element against a cooperating base means. The base means is arranged to receive the card and to mount the support means thereon in a card support apparatus. A withdrawal of the card element is achieved by displacing the upper member to realign the grooves in the upper and lower members.

A better understanding of the present invention may be had when the following detailed description is read in connection with the accompanying drawings, in which:

FIG 1 is a pictorial representation of a unitary support means embodying the present invention.

FIG. 2 is a pictorial representation of the support means shown in FIG. 1 in a card restraining apparatus and showing a fully inserted card.

FIG. 3 is a pictorial representation of the support means apparatus shown in FIG. 2 with a partially inserted card.

FIG. 4 is a pictorial representation of a card restraining means also embodying the present invention for use in a somewhat different manner from that shown in FIG. 2.

Referring to FIGS. 1 and 2, there is shown a card restraining apparatus comprising a pair of unitary support means 1 each having an upper member 2 and a lower member 3. The upper member 3 is joined to the lower member 3 by a thin flexible segment 4. Each lower member 3 is attached to a base 5 by a screw means 6. The restraining means 1 are positioned on base 5 to permit a card element 7 to be disposed there between. The card device 7 may be any card of panel-like structure which it is desired to rigidly position on the base member in a fixed location and in a predetermined relationship. Thus the card element 7 may be a printed circuit carrying card which is inserted into a multiple contact plug in base 5. Alternatively, card device 7 may be a photographic slide carrying card which is positioned on base 5 for projection on a screen.

The upper and lower members 2 and 3 are both provided with a groove therein to accommodate the corresponding edges of the card element 7. Thus, upper member 2 is provided with groove 5 and lower member 3 with groove 9. However, the bottom of groove 9 is at a greater depth than the bottom of groove 3. In other words, the bottom of groove 9 is not aligned with the bottom of groove 3. When the supports 1 are disposed on

the corresponding sides of card 7, the separation between the bottoms of the respective grooves 9 is arranged to admit the width of the card 7. Thus, card device 7 will be restrained and guided by groove 9 on each support 1 toward a final position on base 5. On the other hand, the separation between the bottoms of grooves 8 and in the upper member 2 is less than the width of the card element 7. Accordingly, during an insertion operation of the card 7, as shown in FIG. 3, the upper member 2, is displaced away from the center of the card 7. This displacement of upper member 2 is accommodated by the flexible segment 4. Further, this displacement is limited to a position wherein the separation of the bottoms of grooves 8 contacting the card device 7 is equal to the width of card 7.

When the card is fully inserted, the upper members 3 may be arranged to cooperate with a pair of respective recesses 11 in the edges of the card 7. These recesses 11 are effective to allow the corresponding ones of the upper members 2 to return to a position determined by an unbent position of flexible segment 4. A bottom face 12 of upper member 2 contiguous to groove 8 is arranged to mate with the bottom edge of recess 11 to firmly lock the card 7 against the base 7. Alternatively, as shown in FIG. 4, the upper member 2 may project over the top of card 7 in a fully inserted position. In this case, the bottom edge 12 of member 2 would bear against the top edge of card 7. In either case, upon a full insertion of the card 7, the support means 1 is effective to restrain the edges of card 7 while firmly retaining it against the base 5. It is to be noted that, while two similar supports 1 are shown cooperating with respective edges of card 7, a single support

means 1 could be used on one side of card 7 with a simple card edge receiving means positioned against the other edge of card 7.

In order to facilitate the release of the upper member 2 from the card 7, to allow the withdrawal of card 7, the member 2 may be provided with outwardly projecting tabs 13. A displacement of tabs 13 away from the card 7 would be effective to move member 2 to a position which would allow card 7 to be withdrawn from base 5 along grooves 8 and 9. Additionally, to even more securely retain each of the supports 1 on base 5, a rigid bar member 14 may be provided for each of the support means 1. The bar member 14 is arranged along the back of support 1 and is fastened to base 5 by any suitable means (not shown). The support means 1 are each provided on their back surfaces with a downwardly projecting extension 15 fastened at one end to the support 1, and separated therefrom by a space, which is effective to permit the insertion of bar 14. Thus, each support means 1 is positioned on the bar 14 by allowing this bar 14 to pass into the aforesaid space past the unattached end of extension 15. The support 1 is then retained against the base 5 by screw 6. Using the teaching of this invention, the support means 1 may advantageously be a unity molding of a plastic material such as "Lexan." This material provides many desirable properties for the support 1 including sufficient flexibility and strength for the flexible segment 4.

Accordingly, it may be seen that there has been provided, in accordance with the present invention, a card restraining support which is effective to automatically retain a card element against a cooperating base means

while allowing easy and rapid removal and insertion of the card element.

What is claimed is:

1. A card support comprising a first member having a card receiving groove therein, a second member having a card receiving groove therein and a flexible segment connecting said first and second members and separating said first member from said second member by the length of said segment with the edges of said groove in said first member in alignment with edges of said groove in said second member to form a pair of card receiving grooves while the bottoms of said grooves are not in alignment.

2. A card support, as set forth in claim 1, wherein said first member, said second member and said segment are of a unitary construction.

3. A card support, as set forth in claim 1, wherein said first member has an outwardly projecting tab for temporarily effecting a displacement of said first member with respect to said second member by the flexibility of said segment to provide a card receiving alignment of said bottoms of said grooves.

4. A card support apparatus comprising a pair of card support means arranged on respective sides of a card element, each of said support means including a first member having a card support comprising a first member having a card receiving groove therein, a second member having a card receiving groove therein and a flexible segment connecting said first and second members and separating said first member from said second member by the length of said segment with the edges of said

groove in said first member in alignment with edges of said groove in said second member to form a pair of card receiving grooves while the bottoms of said grooves are not in alignment, and a base member operative to mount said card support means in facing relationship to admit and retain the opposite edges of a card element in respective ones of said pairs of grooves.

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FRANK L. ABBOTT, *Examiner.*

(4)

Supreme Court, U.S.
FILED
MAY 12 1998
CLERK

No. 97-1130

In The

Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF FOR THE PETITIONER

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47pp

QUESTION PRESENTED

Section 102(b) of Title 35 of the United States Code provides, in pertinent part, that a person is entitled to a patent unless the invention was "on sale" more than one year prior to the date on which the application for United States Patent was filed.

The question presented is:

In view of the longstanding statutory definition that the one-year grace period to an on-sale bar can start to run only after an invention is "fully completed," should Mr. Pfaff's United States Patent No. 4,491,377 have been held invalid under 35 U.S.C. § 102(b) when Mr. Pfaff's invention was admittedly not fully completed more than one year before he filed his patent application?

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BRIEF FOR THE PETITIONER

The Petitioner Wayne K. Pfaff respectfully seeks reversal of the judgment of the United States Court of Appeals for the Federal Circuit, entered in the above-entitled proceeding on September 8, 1997.

OPINIONS BELOW

The opinion of the Court of Appeals for the Federal Circuit is reported at 124 F.3d 1429 and is reprinted in the Appendix to Petition for Writ of Certiorari ("Petitioner's Appendix") at PA 1-20.[1] The Federal Circuit's denial of Mr. Pfaff's petition for reconsideration has not been reported and is reprinted in Petitioner's Appendix at PA 170.

The Report and Findings of Fact and Conclusions of Law of Special Master, filed October 19, 1995 and subsequently adopted by the district court, has not been reported and is reprinted in Petitioner's Appendix at PA 23-154.[2] The Final Judgment on Liability of the United States District Court for the Northern District of Texas (Sanders, J.), entered December 29, 1995, has not been

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[1] Citations to "PA" refer to materials in Petitioner's Appendix. For example, a citation to "PA 1" refers to page App.1 in Petitioner's Appendix. Citations to the Joint Appendix, filed herewith, use the prefix "JA." For example, a citation to "JA 1" refers to page 1 of the Joint Appendix.

[2] The Order of the district court adopting the Findings of Fact and Conclusions of Law of Special Master was entered on October 25, 1995, as reflected by docket entry no. 139 for Case No. 91-CV-1542. JA 25.

reported and is reprinted in Petitioner's Appendix at PA 21-22. An earlier opinion of the United States Court of Appeals for the Federal Circuit, reversing summary judgment of non-infringement, is reported at 5 F.3d 514 and is reprinted in Petitioner's Appendix at PA 155-169.

JURISDICTION

Jurisdiction in the United States District Court for the Northern District of Texas was pursuant to the provisions of 28 U.S.C. § 1338(a). The appeal to the United States Court of Appeals for the Federal Circuit was timely taken pursuant to the provisions of 28 U.S.C. §§ 1295, 2107. The judgment of the Federal Circuit sought to be reviewed was entered on September 8, 1997, and, after a timely petition for rehearing was filed, the order denying rehearing was entered on October 3, 1997. Petitioner's Petition for Writ of Certiorari was timely filed, and this Court granted a writ of certiorari on March 9, 1998. On April 15, 1998, Petitioner's application for an extension of time in which to file the Brief for the Petitioner and the Joint Appendix was granted, extending the deadline for filing same through and including May 14, 1998. The jurisdiction of this Court to review the judgment of the Federal Circuit is invoked under 28 U.S.C. § 1254(1).

STATUTES INVOLVED

35 U.S.C. § 102. Conditions for patentability: novelty and loss of rights to patent

A person shall be entitled to a patent unless –

* * *

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

* * *

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.[3]

STATEMENT OF THE CASE

Wayne K. Pfaff ("Mr. Pfaff") fulfilled a long-felt need in the semiconductor industry when he invented a socket for holding and testing leadless semiconductor chip carriers. According to the district court, not only did Mr.

[3] The full text of 35 U.S.C. § 102 is set out in the Petitioner's Appendix at PA 230-31.

Pfaff's invention appear "totally new with respect to each component part," but the commercial success achieved by his invention was "dramatic." PA 21-22, 126, 149.

Mr. Pfaff began to develop the patented subject matter in late 1980 or early 1981, after Texas Instruments asked him to create a new semiconductor chip carrier test socket. On April 8, 1981, Mr. Pfaff's company received a written purchase order for test sockets. JA 60; PA 4, 121.[4] An application for a United States patent on the Pfaff invention was filed on April 19, 1982, and Mr. Pfaff was awarded United States Patent No. 4,491,377 (the "Pfaff '377 Patent") on January 1, 1985. PA 172.

The Pfaff invention concededly was not fully completed until sometime after the critical statutory bar date of April 19, 1981. PA 7-8.[5] Indeed, the trial court found that "[n]ot a single component of the patented invention was actually reduced to physical form prior to the critical date." PA 123.

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[4] The April 8, 1981 purchase order, however, was expressly conditioned upon the requested socket meeting the engineering criteria of Texas Instruments. JA 60. The purchase order, actually issued by Delta V for Texas Instruments, confirmed an earlier, verbal purchase order of March 17, 1981. PA 4, 121.

[5] Although Mr. Pfaff had prepared drawings of the socket by the time he received the April 8, 1981 purchase order, including drawing No. 2020 referenced in the purchase order, and had sent these drawings to a manufacturer to prepare customized tooling for the socket, no sockets had been made at the time of the purchase order or at any time on or before April 19, 1981. PA 7, 123.

This is the second lawsuit in which Mr. Pfaff has sued Respondent Wells Electronics, Inc. ("Wells") for infringement of his United States patent. In the first case, reported at 9 U.S.P.Q.2d 1366 (N.D. Ind. 1988), the United States District Court for the Northern District of Indiana ruled that Wells' then-accused devices did not infringe the Pfaff '377 Patent. PA 198, 199. The trial court also held that the absence of completion of the Pfaff invention (lack of "reduction to practice" in patent parlance) before the critical date meant that the patented invention could not have been on sale more than one year before Mr. Pfaff's application for patent was filed.[6] PA 224-25. On cross-appeals to the United States Court of Appeals for the Federal Circuit, the finding of non-infringement was affirmed and, in accordance with the Federal Circuit's practice at that time, the lower court's judgment in favor of Mr. Pfaff on Wells' counterclaim for patent invalidity was vacated as moot.[7] PA 228-229.

Shortly thereafter, a modified Wells socket appeared in the marketplace. In 1991, Mr. Pfaff filed the instant suit for patent infringement in the United States District Court for the Northern District of Texas. JA 5, 44. The district court initially granted summary judgment of

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[6] In that prior case, the trial court found that Texas Instruments had also approached others to help fill the pressing need for a new socket. PA 201.

[7] The practice of dismissing declaratory judgment actions challenging the validity of patents, and vacating judgments of validity and invalidity as moot upon a finding of non-infringement, was subsequently rejected by this Court in *Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83, 101-102 (1993).

non-infringement in favor of Wells. That judgment was reversed by the Federal Circuit and remanded for further proceedings. PA 155.

On remand, the case was referred to a special master for a non-jury trial. The special master's Report and Findings of Fact and Conclusions of Law were adopted by the district court as its opinion. JA 25; PA 21. In pertinent part, the district court held that the Pfaff invention was not on sale in violation of Title 35, Section 102(b) of the United States Code and that certain claims of the Pfaff '377 Patent were infringed by Wells. PA 21-22.

On appeal, the Federal Circuit determined that the sole reason the district court had not held the Pfaff '377 Patent invalid under Section 102(b) was that Mr. Pfaff's invention had not been "reduced to practice" prior to the critical date "because there was no physical embodiment of the invention." PA 7-8. The appellate court, however, held that Mr. Pfaff's invention was "substantially complete" and had been "commercialized" before the critical date. PA 7, 10, 13. Accordingly, the Federal Circuit held that the Pfaff invention had been on sale in contravention of Section 102(b) and that, as a result, the claims in issue of the Pfaff '377 Patent were invalid. PA 10, 20.[8]

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[8] Six claims of the Pfaff '377 Patent are at issue here. The Federal Circuit held that four of the claims of the Pfaff '377 Patent (claims 1, 6, 7, and 10) were invalid under the on-sale bar set forth in 35 U.S.C. § 102(b). PA 13. The appellate court also held that two additional claims of the '377 Patent (claims 11 and 19) were invalid under a Section 102(b)/103 bar, predicated on its holding of an on-sale bar violation. PA 20.

SUMMARY OF ARGUMENT

A.1. Title 35, Section 102(b) of the United States Code provides, in pertinent part, that a person is entitled to a patent unless the "invention" was "on sale" more than one year prior to the filing date of the United States patent application. At the time Mr. Pfaff filed his patent application, on April 19, 1982, consistent with the plain language of the statute, its legislative history, and relevant case law, it was well settled that the one-year grace period to the on-sale bar could not start until an invention had been "fully completed." Mr. Pfaff accordingly filed his patent application within the one-year grace period.

2. In 1997, the Federal Circuit expressly rejected this statutory "fully completed" condition precedent. It instead held that the one-year grace period may start when an invention is only "substantially complete" if, contemporaneously, it is being "commercialized." Although the Pfaff invention admittedly was not fully completed prior to the critical bar date, and indeed, not a single component actually existed before that time, the Federal Circuit held the Pfaff '377 Patent invalid under Section 102(b). In so doing, the Federal Circuit engaged in impermissible judicial legislation that contravenes both the statutory language and congressional intent.

B. The plain language of Section 102(b) requires an "invention" and nothing less (*i.e.*, not a "substantially complete" invention) be "on sale" to start the running of the statutory one-year grace period. Moreover, elsewhere in Section 102, Congress defined "invention" to consist of two acts: "conception" and "reduction to practice." 35

U.S.C. § 102(g). Therefore, an "invention" does not exist, and cannot be placed "on sale," until both conception and reduction to practice have occurred.

C.1. Although resort to legislative history is here unnecessary because the meaning of the statute is apparent, that Congress intended such a reading of Section 102(b) is confirmed by the legislative history of that statute and its predecessors. The starting point is the Patent Act of 1836, in which a statutory on-sale bar first expressly appeared, albeit as an absolute bar if any prior sale occurred with the "consent or allowance" of the inventor. Congress ameliorated the draconian nature of this absolute bar in the Patent Act of 1839, which introduced a two-year grace period. The object of the 1839 statute "was to fix a [two-year] period of limitation which should be certain" and was to be measured "from the completion of [the] invention . . . . " *Andrews v. Hovey* [*The Driven Well Cases*], 123 U.S. 267, 274 (1887). This Court has defined completion of an invention to require both conception and reduction to practice. *See, e.g., Clark Thread Co. v. Willimantic Linen Co.*, 140 U.S. 481, 489 (1881); *Corona Cord Tire Co. v. Dovan Chemical Corp.*, 276 U.S. 358, 382-83 (1928).

2. The statutory on-sale bar remained substantively unchanged for a century, until the Patent Act of 1939. At that time, Congress reduced the two-year grace period to one year, but reaffirmed that the grace period was not to begin until an invention was fully completed. Congress has not substantively changed the on-sale bar since 1939 and has not retreated from the requirement of "full completion" as an absolute prerequisite to the statutory grace

period for nearly 160 years. This provision is now codified in Title 35, Section 102(b) of the United States Code.

D. Construing Section 102(b) so that the one-year grace period cannot start unless and until an invention has been conceived and reduced to practice is also consistent with more than a century of judicial interpretation. The Federal Circuit, however, has materially altered the law concerning the on-sale bar, by repudiating reduction to practice as a prerequisite to the start of the grace period. Mr. Pfaff's one-year grace period started running at a point in time at which the appellate court determined (*ex post facto*) that his invention was "substantially complete" and had been "commercialized." This decision constitutes not only a repudiation of the statute actually enacted by Congress, but also a refusal to effectuate legislative intent and a rejection of the balance of policies selected by Congress in adopting what was to be a universally understood, easily applied, and predictable bright-line test.

E. The Federal Circuit's holding below is based on an erroneous interpretation of Section 102(b). The Pfaff invention concededly had not been reduced to practice prior to the critical date. PA 7-8. The appellate court nevertheless held that, because the invention was "substantially complete" and had been "commercialized" prior to the critical date, the claims at issue were invalid. Under a proper interpretation of Section 102(b), this holding should be reversed.

ARGUMENT

I.

THE FEDERAL CIRCUIT'S DECISION INVALIDATING THE PFAFF '377 PATENT UNDER THE ON-SALE BAR, EVEN THOUGH MR. PFAFF'S INVENTION WAS ONLY SUBSTANTIALLY COMPLETE AT THE TIME IT PURPORTEDLY WAS PLACED "ON SALE" AND WAS NOT FULLY COMPLETED MORE THAN ONE YEAR BEFORE HIS PATENT APPLICATION WAS FILED, REPRESENTS IMPERMISSIBLE JUDICIAL LEGISLATION THAT THWARTS CONGRESSIONAL INTENT.

A. The Plain Language of Section 102(b) of the Patent Act of 1952 Requires That an Invention be Completed Before the One-Year Grace Period to the On-Sale Bar May Start.

1. The Applicable Rules of Statutory Construction.

It is axiomatic that the ultimate objective of statutory interpretation "is to give effect to the will of Congress . . . . " *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 570 (1982). In discerning the intent of Congress, the Court looks to the explicit language of the statute and its structure and purpose. *Ingersoll-Rand Co. v. McClendon*, 498 U.S. 133, 138 (1990). When the will of Congress "has been expressed in reasonably plain terms, 'that language must ordinarily be regarded as conclusive.' " *Griffin*, 458 U.S. at 570 (citation omitted). Congress may amend statutes; the courts may not. *Id.* at 576.

The interpretation of a statute, then, "must begin with the language employed by Congress and the assumption that the ordinary meaning of that language accurately expresses the legislative purpose." *Park 'N Fly, Inc. v. Dollar Park and Fly, Inc.*, 469 U.S. 189, 194 (1985).

> [When] Congress borrows terms of art in which are accumulated the legal tradition and meaning of centuries of practice, it presumably knows and adopts the cluster of ideas that were attached to each borrowed word in the body of learning from which it was taken and the meaning its use will convey to the judicial mind unless otherwise instructed. In such a case, absence of contrary direction may be taken as satisfaction with widely accepted definitions, not departure from them.

Morissette v. United States, 342 U.S. 246, 263 (1952).[9] The same is true when Congress reenacts or incorporates statutory language with well-established meaning. *Lorillard v. Pons*, 434 U.S. 575, 580-81 (1978). It also generally is presumed that "identical words in different parts of the same act are intended to have the same meaning." *Sullivan v. Stroop*, 496 U.S. 478, 484 (1990); *Sorenson v. Secretary of Treasury*, 475 U.S. 851, 860 (1986).

2. The Proper Construction of Section 102(b).

In accordance with these established principles, one must first look to the language of Section 102(b) of the

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[9] *Accord Molzof v. United States*, 502 U.S. 301, 307 (1992) (identifying rule set forth in *Morissette* as "[a] cardinal rule of statutory construction"); *McDermott Int'l, Inc. v. Wilander*, 498 U.S. 337, 342 (1991) ("In the absence of a contrary indication, we assume that when a statute uses [a term of art], Congress intended it to have its established meaning"); *cf. Davis v. Michigan Dept. of Treasury*, 489 U.S. 803, 813 (1989) ("When Congress codifies a judicially defined concept, it is presumed, absent an express statement to the contrary, that Congress intended to adopt the interpretation placed on that concept by the courts").

Patent Act of 1952 (the "1952 Act"), which, in pertinent part, provides:

> A person shall be entitled to a patent unless –
>
> . . . .
>
> (b) the *invention* was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States . . . .

35 U.S.C. § 102(b) (emphasis added). On its face, the statute requires that an "invention" – and nothing less (*i.e.*, not a "substantially completed" invention) – be placed "on sale" to trigger the one-year grace period.

The term "invention" is, in turn, given meaning and content, and thereby defined, in Section 102(g) of the 1952 Act, which provides:

> A person is entitled to a patent unless –
>
> . . . .
>
> (g) before the applicant's invention thereof the *invention* was made in this country by another who had not abandoned, suppressed, or concealed it. In determining the priority of invention, there shall be considered not only the respective dates of *conception and reduction to practice of the invention*, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to the conception by the other.

Id. (emphasis added). In Section 102(g), Congress defined "invention" in traditional patent form – not in the form of "an invention is [blank]," but rather in terms of its two constituent acts or elements: "conception" and "reduction

to practice."[10] Thus read in proper context, Section 102(b) establishes a bright-line test, under which the grace period to the on-sale bar cannot start to run until an invention is both conceived and reduced to practice. *See Griffin*, 458 U.S. at 570; *Ingersoll Rand*, 498 U.S. at 138; *Park 'N Fly*, 469 U.S. at 194; *Sullivan*, 496 U.S. at 484.

This statutory construction is consistent with the longstanding definition of the term "invention" used by courts and commentators alike. The "conception" of an invention is "the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice . . . . " *Townsend v. Smith*, 36 F.2d 292, 295 (C.C.P.A. 1929).[11] As this Court long ago recognized, however,

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[10] As Professor William C. Robinson explained in 1890:

> Every invention contains two elements: (1) An idea conceived by the inventor; (2) An application of that idea to the production of a practical result. Neither of these elements is alone sufficient. The unapplied idea is not an invention. The application of an idea, not original with the person who applies it, is not an invention. *Hence the inventive act in reality consists of two acts; one mental, the conception of an idea; the other manual, the reduction of that idea to practice.*

1 William C. Robinson, *The Law of Patents for Useful Inventions*, § 77 (photo reprint 1971) (1890) (emphasis added).

[11] *Accord Electro-Metallurgical Co. v. Krupp Nirosta Co.*, 122 F.2d 314, 318 (3d Cir. 1941), *cert. denied*, 314 U.S. 699 (1942); 1 Robinson, *supra*, note 10, § 376 (conception "consists in the complete performance of the mental part of the inventive act. . . . All that remains to be accomplished . . . belongs to the department of construction, not creation").

before an inventor's idea or conception becomes an "invention," the inventor "must have proceeded so far as to have *reduced his idea to practice and embodied it in some distinct form.*" *Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 552 (1868) (emphasis added); *accord Clark Thread Co. v. Willimantic Linen Co.*, 140 U.S. 481, 489 (1891) ("conception of the mind is not an invention until represented in some physical form"); *T.H. Symington Co. v. National Malleable Castings Co.*, 250 U.S. 383, 386 (1919) (same).[12] In *Corona Cord Tire Co. v. Dovan Chemical Corp.*, 276 U.S. 358, 383 (1928), the Court identified the physical form required to establish reduction to practice in three of the statutory categories of patentable subject matter:[13]

> A *process* is reduced to practice when it is successfully performed. A *machine* is reduced to practice when it is assembled, adjusted, and used. A *manufacture* is reduced to practice when it is completely composed.

Id. (emphasis added). Moreover, this Court has confirmed that an invention is not "complete" unless and until it has been reduced to practice. *Clark Thread*, 140 U.S. at 489 ("invention was not completed until the construction of the machine"); *Corona Cord Tire*, 276 U.S. at 382-83 ("necessary reduction to use is shown by instances making it

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[12] *See also Pittsburgh Water Heater Co. v. Beler Water Heater Co.*, 228 F. 674, 677-78 (3d Cir. 1915), *cert. denied*, 241 U.S. 667 (1916); *Consolidated Vultee Aircraft Corp. v. Maurice A. Garbell, Inc.*, 204 F.2d 946, 949 (9th Cir.), *cert. denied*, 346 U.S. 873 (1953); *Bogoslowsky v. Huse*, 142 F.2d 75, 77 (C.C.P.A. 1944).

[13] *See* 35 U.S.C. § 101 (defining statutory categories of "inventions patentable" as including any new and useful "process, machine, manufacture"); *see also, infra*, note 24.

clear that [the invention] did so work, and was a completed discovery").[14]

Therefore, long before 1952, "invention" was a term of art encompassing both "conception" and "reduction to practice."[15] This definition was firmly in place by the time Congress enacted the 1952 Act, and Congress adopted its meaning intact. *See generally* 35 U.S.C. § 102(b), (g); *Morissette*, 342 U.S. at 263.[16] Because the

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[14] *See also Automatic Weighing Mach. Co. v. Pneumatic Scale Corp.*, 166 F. 288, 298 (1st Cir. 1909); *Hann v. Venetian Blind Corp.*, 111 F.2d 455, 458 (9th Cir, 1940); *Bogoslowsky*, 142 F.2d at 76-77; *Sherman v. American Tel. & Tel. Co.*, 38 F. Supp. 360, 364 (S.D.N.Y. 1941), *aff'd*, 132 F.2d 321 (2d Cir. 1942); *In re DeBaun*, 687 F.2d 459, 463 (C.C.P.A. 1982).

[15] *See* 1 Robinson, *supra* note 10, § 77; 1 Anthony W. Deller, *Walker on Patents, Deller's Edition* § 23 (1937) [hereinafter *"Walker, Deller's First Edition"*].

[16] Although Section 100 of the 1952 Act does offer a general definition of the term "invention," it is only of secondary assistance here. Section 100(a) provides: " 'invention' means invention or discovery." 35 U.S.C. § 100(a). According to the Revision Notes that accompanied the 1952 Act, this definition was added to the 1952 Act

> only to avoid repetition of the phrase "invention or discovery" and its derivatives throughout the revised title. The present statute [*i.e.*, the predecessor to the 1952 Act] uses the phrase 'invention or discovery' and derivatives.

S. Rep. No. 1979, 82d Cong., 2d Sess. (1952), *reprinted in*, 1952 U.S.C.C.A.N. 2394, 2409 (revision notes to Section 100). The terms "discover" and "discovery," however, consistently had been treated as synonymous with the terms "invent" or "invention." *See* 1 *Walker, Deller's First Edition*, *supra* note 15, § 10, at 35-36; § 24, at 112 (citing cases). The definition of invention in Section 100, then, simply reflects a non-substantive simplification of the text of the 1952 Act.

Federal Circuit confirmed that Mr. Pfaff's invention was not reduced to practice any time prior to the April 19, 1981 critical date, PA 7-8, his invention was not completed and could not have been "on sale" in violation of the plain meaning of 35 U.S.C. § 102(b).

B. The Legislative History of the On-Sale Bar Confirms that Full Completion of an Invention Must Occur Before the One-Year Grace Period Begins to Run.

Although reference to the legislative history may be unnecessary when, as here, the plain meaning of a statute is clear on its face, this Court has often looked to legislative history for confirmation of the intended meaning of a statute.[17] The legislative history of the 1952 Act and its predecessors confirms that full completion (*i.e.*, reduction to practice) of an invention is an absolute prerequisite to the start of the one-year grace period to the Section 102(b) on-sale bar.

That an inventor does not have the unfettered right to complete and sell an invention, and only years later seek patent protection, has long been a part of the United States patent laws. Even prior to the express enactment of an on-sale bar in 1836, this Court found that certain forms of sales activity were prohibited under the Patent Act of

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[17] *See, e.g., Negonsott v. Samuels*, 507 U.S. 99, 106 (1993) (although "resort to secondary materials is unnecessary in this case, the legislative history . . . supports our construction"); *Griffin*, 458 U.S. at 574 (legislative history "confirms that Congress intended the statute to mean exactly what its plain language says").

1793. Thus, in *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1 (1829), the Court observed that

> [i]f an inventor should be permitted to hold back from the knowledge of the public the secrets of his invention; *if he should for a long period of years retain the monopoly, and make, and sell his invention publicly*, and thus gather the whole profits of it, relying on his superior skill and knowledge of the structure; and then, and then only, when the danger of competition should force him to secure the exclusive right, and he should be allowed to take out a patent, and thus exclude the public from any farther use than what should be derived under it during his fourteen years; it would materially retard the progress of science and the useful arts, and give a premium to those who should be least prompt to communicate their discoveries.

Id. at 19 (emphasis added). The Court went on to hold that the Patent Act of 1793 prohibited an inventor from obtaining a valid patent "if he suffer[ed] the thing invented . . . to be publicly sold for use before he [made] application for a patent." *Id.* at 23-24.[18]

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[18] The 1793 Act, however, failed to provide for any substantive novelty examination prior to patent issuance. S. Rep. No. 338, 24th Cong., 1st. Sess. 6 (1836), *reprinted in*, 9 Donald S. Chisum, *Chisum on Patents*, Appendix 12, at 12-3 to 12-6 (1998), thus leaving the issue of invalidating, pre-application activity to be raised by defendants charged with infringement of an issued patent. *See also Shaw v. Cooper*, 32 U.S. (7 Pet.) 292, 321-22 (1833).

The statutory on-sale bar first expressly appeared in the Patent Act of 1836 (the "1836 Act").[19] Under the 1836 Act, placing an invention on sale with the "consent or allowance" of the inventor *at any time* before the patent application was filed constituted a bar to patentability.[20] Congress enacted the 1836 Act, including this statutory bar to patentability, as part of an effort to halt the issuance of patents for inventions that had "long been in public use" prior to the filing of applications thereon.[21]

The draconian nature of this original on-sale bar provision was ameliorated by Congress in the Patent Act of 1839 (the "1839 Act"), with the addition of a two-year grace period.[22] At the same time, Congress eliminated the requirement of the applicant's "consent or allowance" to the public use or sale as a prerequisite to the invocation

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[19] Patent Act of 1836, ch. 357, § 6, 5 Stat. 117 (1836) (repealed; current version codified as amended in 35 U.S.C. § 102(b)).

[20] *Id.*

[21] S. Rep. No. 338, *supra* note 18, *reprinted in*, 9 Donald S. Chisum, *Chisum on Patents*, Appendix 12, at 12-3 to 12-5 (1998).

[22] Section 7 of the 1839 Act, *inter alia*, provided that

> no patent shall be held invalid by reason of such purchase, sale, or use prior to the application as aforesaid, *except on proof* of abandonment of such invention to the public; or that *such purchase, sale, or prior use has been for more than two years prior to such application for a patent*.

Patent Act of 1839, ch. 88, § 7, 5 Stat. 353 (1839) (repealed; current version codified as amended in 35 U.S.C. § 102(b)) (emphasis added).

of the bar.[23] As this Court explained in *Andrews v. Hovey* [*The Driven Well Cases*], 123 U.S. 267 (1887):

> The evident purpose of [section 7 of the 1839 Act] was to fix *a period of limitation which should be certain*, and require only a calculation of time, and should not depend upon the uncertain question of whether the applicant had consented to or allowed the sale or use. Its object was to require the inventor to see to it that he filed his application within two years *from the completion of his invention*, so as to cut off question of the defeat of his patent by a use or sale of it by others more than two years prior to his application, and thus leave open only the question of priority of invention.

Id. at 274 (emphasis added). Congress thus intended the on-sale bar provision of the 1839 Act to provide inventors enhanced certainty in calculating the date by which an application for patent must be filed. It accomplished this by adopting *completion* of an invention as an absolute prerequisite to starting the two-year grace period.

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[23] Although there apparently was some initial confusion as to whether the 1839 Act, in fact, eliminated the "consent or allowance" requirement, the *Andrews* Court settled this issue. *See Andrews v. Hovey*, 124 U.S. 694 (1888) (opinion on denial of rehearing in *Andrews v. Hovey*, 123 U.S. 267 (1887)).

The statutory on-sale bar remained substantively unchanged until 1939,[24] when Congress reduced the two-year grace period to one year.[25] The legislative history of the 1939 Act, however, reiterated Congress' intent that an invention be *fully completed* before the statutory grace period begins to run:

> The [previous version of the] law . . . permits an inventor, after his invention is *fully completed*, to make the invention known to the public for a

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[24] The Consolidated Patent Act of 1870 recodified the two-year grace period attached to the on-sale bar without substantive change. *See* Ch. 230, § 24, 16 Stat. 198 (1870) (repealed; current version codified as amended § 102(a), (b), & (c)). Section 24 of the 1870 Act, *inter alia*, provided

> [t]hat any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country, and not patented, or described in any printed publication, in this or any foreign country, before his invention or discovery thereof, *and not in public use or on sale for more than two years prior to his application*, unless the same is proved to be abandoned, may, upon payment of the duty required by law, and other due proceedings had, obtain a patent therfor.

Id. (emphasis added). When, in 1874, Congress compiled and reorganized the laws of the United States in the Revised Statutes, the on-sale bar provision (Section 24 of the 1870 Act) was relocated, without change, to section 4886 of the Revised Statutes. Revised Statutes, Title LX, ch. 1, § 4886 (1874) (repealed; current version codified as amended in 35 U.S.C. § 102(a), (b) & (c)).

[25] *See*, Patent Act of 1939 (the "1939 Act"), ch. 450, § 1, 53 Stat. 1212 (1939) (repealed; current version of amended provisions codified in 35 U.S.C. §§ 101, 102, 119, 171, 172, 282).

> period of 2 years before the filing of his application for patent. An invention may be described in print, sold, and used widely by anyone, either the inventor himself or others, and after a period of up to 2 years, an application for patent can be filed by the original inventor and a valid patent obtained, even when the public may have come to believe that the invention is open to anyone.
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> . . . . Under present conditions 2 years appears unduly long and operates as a handicap to industry. Reduction of the period [to one year] would serve to bring the date of patenting closer to the time *when the invention is made* . . . .

H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939) (emphasis added); S. Rep. No. 876, 76th Cong. 1st Sess. 1 (1939) (same language). Congress thus affirmed that full completion of an invention (*i.e.*, its reduction to practice) was to remain a prerequisite to starting the grace period to the on-sale bar.

The last relevant revision of the patent laws was undertaken in 1952. The Patent Act of 1952, which formally codified the patent laws in Title 35 of the United States Code, made no substantive changes to the on-sale bar as amended in 1939.[26] The current version of Section

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[26] The Senate Report accompanying the 1952 Act specifically states that "Section 102 in paragraphs (a), (b), and (c) repeats the conditions in the existing law relating to novelty." S. Rep. No. 1979, *supra* note 16, *reprinted in*, 1952 U.S.C.C.A.N. at 2399. The only change in these paragraphs is "that due to division into lettered paragraphs." *Id.* at 2410 (revision notes to Section 102).

102(b) remains identical to that enacted in 1952. *See* 35 U.S.C. § 102(b).

Like the plain language of Section 102(b), the legislative history of the statute and its predecessors compels an interpretation that requires both conception of an invention and its reduction to practice before the one-year grace period to the on-sale bar can begin to run. The intent and purpose of the statutory grace period has remained unchanged since its adoption in 1839, as has the requirement of "full completion" as an absolute prerequisite to the start of the grace period. Congress enacted a universally understood, easily applied, and predictable bright-line test so inventors could take advantage of the entire length of the statutory grace period without risking forfeiture of potentially valuable patent rights. The Federal Circuit judgment here in issue represents impermissible judicial legislation that is at variance with the statute and thwarts congressional intent.

II.

THE FEDERAL CIRCUIT ALSO HAS REJECTED A SUBSTANTIAL BODY OF JUDICIAL AUTHORITY RECOGNIZING REDUCTION TO PRACTICE AS A PREREQUISITE TO THE COMMENCEMENT OF THE GRACE PERIOD TO THE ON-SALE BAR.

The plain language of Section 102(b) and its legislative history should leave no doubt that Congress intended full completion of an invention to be an absolute prerequisite to the start of the grace period. There also is no doubt that recent Federal Circuit jurisprudence has materially altered the law concerning the on-sale bar

in two respects: (1) by adopting a "totality of the circumstances" framework for determining whether an invention has been placed "on sale" in violation of Section 102(b) and (2) by adopting a "substantially complete" test to define the point at which the grace period to the on-sale bar can begin to run. In so doing, the Federal Circuit substituted its own judgment for that of the legislature and, in the process, materially (and impermissibly) redefined the on-sale bar in a manner repugnant to the statute actually enacted by Congress.

A. Before the Creation of the Federal Circuit, the Courts Consistently Required That an Invention Be Reduced to Practice Before the One-Year Grace Period Could Begin to Run.

A substantial body of appellate case law predating the creation of the Federal Circuit routinely applied the rule that an invention must be fully completed before the statutory grace period could begin to run. The regional circuit courts consistently effectuated the congressional mandate that Section 102(b)'s one-year grace period not start until the invention had been fully completed.[27] The

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[27] *See, e.g., Americo Contact Plate Freezers, Inc. v. Belt-Ice Corp.*, 316 F.2d 459, 465 (9th Cir.), *cert. denied*, 375 U.S. 902 (1963); *In re Yarn Processing Patent Validity Litig.*, 498 F.2d 271, 277 (5th Cir.), *cert. denied, sub nom. Saquoit Fibers Co. v. Leesona Corp.*, 419 U.S. 1057 (1974); *Timely Prods. Corp. v. Arron*, 523 F.2d 288, 302 (2d Cir. 1975); *Austin v. Marco Dental Prods., Inc.*, 560 F.2d 966, 969 (9th Cir. 1977), *cert. denied*, 435 U.S. 918 (1978); *CTS Corp. v. Piher Int'l Corp.*, 593 F.2d 777, 779 (7th Cir.), *cert. denied*, 444 U.S. 884 (1979); *Digital Equip. Corp. v. Diamond*, 653 F.2d 701, 718 (1st Cir. 1981); *Stewart-Warner Corp. v. City of Pontiac, Mich.*,

Court of Customs and Patent Appeals (a predecessor to the Federal Circuit) likewise interpreted the statute as requiring "reduction to practice" before the one-year grace period could commence.[28]

Thus, at the time Mr. Pfaff's patent application was filed, on April 19, 1982, the law governing the start of the grace period to the Section 102 on-sale bar was well established, not only by the clear language of the statute and its legislative history, but also by a substantial body of case law. The courts had effectuated the universally understood, easily applied, and predictable bright-line test that Congress had created. In keeping with the law, Mr. Pfaff filed his application within one year after the completion of his invention. PA 7-8, 123, 172.

B. The Federal Circuit's Foray Into Judicial Legislation.

In *Barmag Barmer Maschinenfabrik AG v. Murata Machinery, Ltd.*, 731 F.2d 831 (Fed. Cir. 1984), the Federal Circuit suggested in *dicta* that, in some instances, a requirement that there be a physical embodiment of an invention to start the running of the grace period might be inappropriate. *Id.* at 837.[29] Nevertheless, until its 1987

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717 F.2d 269, 273-74 (6th Cir. 1983); *Dataq, Inc. v. Tokheim Corp.*, 736 F.2d 601, 604-05 (10th Cir. 1984).

[28] *See, e.g., In re Theis*, 610 F.2d 786, 791-92 (C.C.P.A. 1979); *In re Corcoran*, 640 F.2d 1331, 1333-34 (C.C.P.A. 1981).

[29] As the *Barmag* court acknowledged, in *In re Corcoran*, 640 F.2d at 1333-34, the Court of Customs and Patent Appeals expressly approved a regional appellate court analysis that

decision in *UMC Electronics Co. v. United States*, 816 F.2d 647, 652, 656-57 (1987), *cert. denied*, 484 U.S. 1025 (1988), the Federal Circuit did not expressly reject the reduction to practice requirement and, indeed, continued approving use of reduction to practice as a benchmark in determining when to start the one-year grace period to the on-sale bar.[30]

In *UMC Electronics*, a divided panel of the Federal Circuit held that "reduction to practice is not always a requirement of the on-sale bar." *Id.* at 653. The majority instead adopted a "totality of the circumstances" test, in which reduction to practice was merely one factor. *Id.* at 656-57. It adopted this new test without proper deference to the principles governing statutory construction.[31] In its only bow to the actual language of the statute, the *UMC Electronics* majority sought to justify its decision with the

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required actual reduction to practice as a condition precedent to the start of the statutory grace period. *See Barmag*, 731 F.2d at 836.

[30] *See, e.g., Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 622-23 (Fed. Cir.) (approving district court's use of jury instruction that the on-sale bar "applies to 'a *completed* invention that has been shown to be commercially useful' ") (emphasis added), *cert. dismissed*, 474 U.S. 976 (1985); *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860 (Fed. Cir. 1985) ("district court properly relied on two factors as evidence of 'on sale': (1) a sale or offer of sale of the invention, and (2) an existing reduction to practice at the time of the offer), *cert. denied*, 475 U.S. 1016 (1986); *Great Northern Corp. v. Davis Core & Pad Co., Inc.*, 782 F.2d 159, 164-65 (Fed. Cir. 1986) (affirming district court's holding that on-sale bar did not apply in absence of reduction to practice).

[31] *See* discussion *supra* part I.A.1.

obscure observation that "[i]mplicit in the operation of a sections 102(b)/103 bar is the *absence* of reduction to practice of the *claimed invention* as a requirement for the bar to operate." 816 F.2d at 656 (emphasis in original). This erroneous observation, purportedly derived from an earlier decision of the Court of Customs and Patent Appeals, results from inappropriate intermingling of two separate inquiries. *See id.* at 661-62 (Smith, J., dissenting).[32] Moreover, even if, *arguendo*, the majority's observation had any merit (which it does not), an "implicit" result suggested by an appellate court decision is not a valid reason to ignore the express mandate of Section 102(b).

Faced with the reality that the "totality of the circumstances" framework provides no concrete guidance whatsoever, the Federal Circuit has since struggled to provide

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[32] Simply stated, the *UMC Electronics* majority made a fundamental misstep in logic by failing to appreciate the necessary distinction, in a Section 103 obviousness analysis, between Section 102(b) *prior art* (*i.e.*, an "invention" placed on sale under Section 102(b)) and the *claimed* invention, which is to be *compared with* the prior art. *See* Janice M. Mueller, *Conception, Testing, Reduction to Practice: When Is It Really On Sale?*, 80 J. Pat. & Trademark Off. Soc'y___, part V, ¶ 3 (scheduled for publication May 1998). This article is currently available through the Suffolk University School of Law website at <http://www.suffolk.edu/law/faculty/jmueller/onsale.html>. Further citations are to the article as it appears at this website and are made by section, paragraph, and/or footnote numbers, as appropriate. *See generally Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (defining analysis under Section 103); *see also In re Corcoran*, 640 F.2d at 1334 (applying Section 102/103 bar analysis).

inventors (and the lower courts) with additional parameters by which to measure the consequence of "commercial" activities preceding the critical date. The resulting case law has yielded both confusion and inconsistency.[33] In late 1996, for example, the majority of a divided Federal Circuit panel criticized as "unworkable" the lower court's use of a "sufficiently complete" standard to invalidate a patent under the on-sale bar. *Seal Flex, Inc. v. Athletic Track and Court Construction*, 98 F.3d 1318, 1323 (Fed. Cir. 1996). More specifically, that panel majority rejected the district court's "sufficiently complete" standard because

> the inventor will not know, until informed by a judge, at what stage his experimental method became, with judicial insight based on hindsight, sufficiently complete to start the time bar to patentability.

Id. Within three months, however, the Federal Circuit itself, in an apparent about face, had embraced a "substantially complete" standard, which it later applied to invalidate the Pfaff '377 Patent.[34] The Federal Circuit's

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[33] *See* Mueller, *supra* note 32, at part III, nn. 33-72 and accompanying text.

[34] In early 1997, the Federal Circuit articulated its "substantially complete" standard. *See Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1545 (Fed. Cir.) ("even though technical requirements of reduction to practice have not been met, a sale or definite offer to sell a *substantially completed* invention, with reason to expect that it would work for its intended purpose upon completion, suffices to generate a statutory bar") (emphasis added), *cert. denied*, 117 S. Ct. 2516 (1997); *accord Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1167-68 (Fed. Cir. 1997) ("without a *substantially completed*

foray into judicial legislation is both unwarranted and unjustified. The judgment invalidating the Pfaff '377 Patent based thereon should be reversed.

III.

THE BALANCE OF POLICIES REFLECTED IN CONGRESS' ADOPTION OF THE GRACE PERIOD TO THE SECTION 102(b) ON-SALE BAR REMAINS APPLICABLE AND DOES NOT JUSTIFY THE FEDERAL CIRCUIT'S JUDICIAL AMENDMENT OF THE STATUTE.

A. Relevant Policy Considerations Support the Reduction to Practice Requirement.

The United States patent laws generally embrace competing policies in their effort to fulfill the constitutional goal of promoting the inventive process. *See, e.g., Pennock v. Dialogue*, 27 U.S. (2 Pet.) at 19; *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 148-151 (1989). As the Court acknowledged in *Kewanee Oil Corp. v. Bicron Corp.*, 416 U.S. 470 (1974), the patent laws advance this goal by providing reasonable incentives to inventors to invent.

> The stated objective of the Constitution in granting the power to Congress to legislate in the area of intellectual property is 'to promote the Progress of Science and useful Arts.' The patent laws promote this progress by offering a right of exclusion for a limited period *as an incentive to*

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invention there could be no on-sale bar") (emphasis added). Neither *Micro Chemical* nor *Robotic Vision Systems*, however, held the patents there at issue invalid under the on-sale bar.

> *inventors to risk the often enormous costs in terms of time, research and development.*

Id. at 480 (emphasis added). In this way, the patent laws also provide reasonable incentive for an inventor to lift the veil of secrecy from his work. *Bonito Boats*, 489 U.S. at 150-51.

One such incentive is Congress' decision to provide inventors an easily calculable time period of one year, after an "invention" actually exists and is "on sale," to decide if it has shown sufficient commercial success to warrant the time and expense of a patent application. *See Andrews v. Hovey*, 123 U.S. at 274 (the purpose of the grace period to the on-sale and public use bars "was to fix a period of limitation which should be certain"); *cf. Bonito Boats*, 489 U.S. at 150-51 ("[t]he federal patent system thus embodies a carefully crafted bargain for encouraging the creation and disclosure of new, useful, and nonobvious advances in technology and design in return for the exclusive right to practice the invention for a period of years."); H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939). Section 102(b), construed in a manner consistent with its plain language and legislative history, and supported by numerous pre-Federal Circuit cases, reflects a specific balance drawn by Congress between competing policies that cannot permissibly be changed by judicial legislation.

The "substantially complete" test applied by the Federal Circuit in this case necessarily eviscerates the balance of policies reflected in the universally understood, easily applied, and predictable bright-line test Congress adopted in the grace period of Section 102(b). The Federal

Circuit has exceeded its authority by subordinating the policy of providing inventors with a time certain in which to evaluate the worth of their inventions in favor of other policy considerations of that court's own choosing.

B. The Federal Circuit's Flawed Policy Analysis

In 1981, the Court of Claims synthesized what it regarded as four identifiable policies underlying the on-sale bar: (1) avoiding detrimental reliance by the public on prolonged sales activity that may lead to the belief that the invention is free for all to use; (2) promoting "prompt" disclosure of new inventions to the public; (3) preventing inventors from "commercially exploiting" the exclusivity of their inventions substantially beyond the statutory period set by Congress; and (4) providing inventors a reasonable amount of time (now one year by statute) after beginning sales activities to determine whether to invest in obtaining a patent. *General Elec. Co. v. United States*, 654 F.2d 55, 61 (Ct. Cl. 1981) (*en banc*). In *UMC Electronics* and its progeny, the Federal Circuit invoked these policy considerations as justification for rejecting the reduction to practice component of "invention" in Section 102(b). *UMC Elecs.*, 816 F.2d at 652, 656.[35] Careful analysis, however, reveals that these policies,

[35] The elevated stature enjoyed by these policies in Federal Circuit jurisprudence has not gone without criticism.

> Although the Federal Circuit has referred to these policies as "statutory policies," it is not clear that they are. If Congress had intended this flurry of "statutory policies" to govern the on-sale bar, it would probably have inserted them into the statute. Because not in the statute, these policies should probably not be called statutory."

Atlantic Thermoplastics Co. v. Faytex Corp. 5 F.3d 1477, 1485 n.3 (Fed. Cir. 1993) (Rader, J., dissenting) (citations omitted).

placed in proper context, do not support the Federal Circuit's judicial replacement of the bright-line, full completion standard mandated by Congress with a "substantially complete" test based on a "totality of the circumstances."

The first of the four perceived policies invoked by the Federal Circuit (avoiding "detrimental reliance") was actually considered in the legislative history to the 1939 Act. At the same time, however, Congress determined that providing inventors with a well-defined, one-year grace period (reduced from two years), starting only after an invention was "fully completed," was appropriate *"even when the public may have come to believe that the invention is open to anyone."* H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939) (emphasis added); S. Rep. No. 876, 76th Cong., 1st Sess. 1 (1939) (same language) (emphasis added). Moreover, it is incongruous to suggest that the public could rely detrimentally on the apparent availability of subject matter purportedly "on sale" when, as here, no physical embodiment even exists until after the critical date has passed.[36]

The second perceived policy (promoting prompt disclosure of inventions) is one which has general applicability to the patent laws. *See Bonito Boats*, 489 U.S. at 151. Nevertheless, neither this policy nor the patent system is served by forcing inventors to make premature

[36] *See* Mueller, *supra* note 32, at part II, ¶ 3.

disclosure of inventions. *See id.* at 150 (best mode of carrying out invention must also be revealed); *Robotic Vision Sys.*, 112 F.3d at 1168. Similarly, Congress' decision to provide inventors with an easily calculable one-year grace period belies the existence of an *overriding* policy of prompt filing that either operates at the expense of certainty or works to diminish the one-year length of the grace period. 35 U.S.C. § 102(b), (g). Yet, the Federal Circuit, through its creation of vague and unpredictable benchmarks (*e.g.*, "substantially complete" and "totality of the circumstances"), has placed inventors in the untenable position of either using less than the full one-year term of the statutory grace period (to ensure timely filing) or risking forfeiture of the patent many years (and many dollars) after the fact.[37] There is no policy of promoting prompt disclosures that can justify presenting inventors with this Hobson's choice.

The third perceived policy (preventing "commercial exploitation" of an invention substantially beyond the period authorized by statute) originally stemmed from a concern that inventors were using and selling inventions for a "long period of years" and only seeking patent protection when competition began to surface. *Pennock*, 27 U.S. (2 Pet.) at 19. Under the Federal Circuit's "guidance," however, this policy has evolved from one intended to protect the public from long delays into a trap for the unwary inventor.[38] Stated correctly, Congress

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[37] *Id.* at part IV ("Practice Considerations").

[38] In *Graham v. John Deere Co.*, this Court identified a number of "secondary considerations," that would provide objective indications of non-obviousness, such as commercial success and long-felt, but unsolved, need. 383 U.S. at 17. Evidence of long-felt need would include such things as a conditional purchase order of the type here in evidence. *See supra* note 4 and accompanying text. Yet, under the Federal Circuit's current approach to the on-sale bar, the very existence of such evidence of non-obviousness can become the basis for a statutory bar trap, depending on how the appellate court applies the "substantially complete" test to its view of the facts. *See also* Mueller, *supra* note 32, at part IV, ¶ 1.

intended to give inventors one year after placing completed inventions "on sale" to decide whether to invoke the protection of the patent laws. *See* H.R. Rep. No. 961, 76th Cong. 1st Sess. 1 (1939); *see also supra* notes 23-26 and accompanying text; *see generally Kewanee*, 416 U.S. at 480-81. Congress has balanced the policy scales as it deemed appropriate; it is not for the Federal Circuit to rebalance them.[39]

The fourth policy identified by the Federal Circuit (allowing inventors a reasonable amount of time following the beginning of sales activity to assess the commercial worthiness of their inventions) is actually incomplete.

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[39] Since *UMC Electronics*, the Federal Circuit has overemphasized this perceived policy. *See, e.g., In re Mahurkar Double Lumen Hemodialysis Catheter Patent Litig.*, 71 F.3d 1573, 1577 (Fed. Cir. 1995) ("commercialization is the central focus" for determining applicability of on-sale bar); *Ferag AG v. Quipp, Inc.*, 45 F.3d 1562, 1565 (Fed. Cir.) ("[f]oremost among [relevant factors] is the policy of preventing inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term), *cert. denied*, 516 U.S. 816 (1995); *see also Micro Chem.*, 103 F.3d at 1553 (Mayer, J., dissenting from majority's refusal to apply on-sale bar and pointing to the "singularly important underlying policy of preventing inventors from extending the patent term").

as stated. Congress intended to provide inventors a reasonable time certain (now one year) in which to assess the commercial success of an invention, *after it is reduced to practice*. H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939); S. Rep. No. 876, 76th Cong. 1st Sess. 1 (1939); *see also Andrews v. Hovey*, 123 U.S. at 274. The Federal Circuit's ruling, however, has made it virtually impossible for inventors to determine with any certainty (or confidence) the filing date deadline that will allow them to partake of the full grace period.[40] Thus, the Federal Circuit has acted in contravention to a policy actually reflected by Congress' adoption of the statutory grace period.

As a consequence of the Federal Circuit's misreading of Section 102(b), that court has effected an enormous, unauthorized change in the law – one that thwarts congressional intent and disserves both inventors and the patent system. As the dissent prophetically stated in *UMC Electronics*, absent a reduction to practice requirement,

> [t]hose inventors who have sought financing, or who have engaged in other normal business activities before they have made a workable device will not know how the time limit for filing a patent application will be measured or where the line will be drawn between raw idea and proved invention. Inventors do not normally try to patent something they have not yet found workable. The patent law, and particularly section 112, does not favor it. Most inventors do not hire a patent lawyer until they know they have something that works, by which

[40] *See* Mueller, *supra* note 32, at part IV.

> time, according to the panel majority, it may be too late.
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> . . . . It is not clear why this change is being wrought in the community of inventors and on the public without providing some alternative measure of certainty. The "all circumstances" rule evoked by the panel majority means that the critical question in more and more cases can only be answered with finality by a judicial determination in which there is no further appeal.

UMC Elecs., 816 F.2d at 664 (Smith, J., dissenting).[41] This will remain the case until corrected by this Court.

IV.

THE FEDERAL CIRCUIT'S HOLDING THAT THE PFAFF '377 PATENT IS INVALID BECAUSE MR. PFAFF PLACED HIS INVENTION "ON SALE" OUTSIDE THE STATUTORY GRACE PERIOD SHOULD BE REVERSED.

At the time Mr. Pfaff's's patent application was filed, on April 19, 1982, the law governing the start of the grace

[41] The Federal Circuit's rejection of a bright-line rule in *UMC Electronics* was again questioned some five years later:

> A multi-factored "totality of the circumstances" test no doubt satisfies a judge's preference for the discretion to emphasize those factors favoring equitable outcome. In an international marketplace, however, *the predictability and certainty of a bright-line test, such as that suggested by section 102(b) of the Patent Act, ought to trump judicial discretion.*

Atlantic Thermoplastics, 5 F.3d at 1485 n.3 (Rader, J., dissenting) (citations omitted) (emphasis added).

period to the Section 102(b) on-sale bar was well established, not only by the clear language of the statute and its legislative history, but also by a substantial body of case law. *See supra* parts I, II.A. Mr. Pfaff's invention was concededly not fully completed before the critical date. PA 7-8. Complying with the law, Mr. Pfaff filed his application within one year after the completion of his invention.

In rejecting the statutory requirement that an invention be fully completed before the one-year grace period can begin to run, and thus holding Mr. Pfaff's patent invalid by starting the grace period from a time when his invention was only "substantially complete," the Federal Circuit ignored this Court's basic tenets of statutory construction and created a rule that contravenes Congress' intent to provide inventors with a universally understood, easily applied, and predictable bright-line test.[42] The Federal Circuit did not apply existing law; it amended it. In the process, the Federal Circuit effectively deprived Mr. Pfaff (and other inventors) of the opportunity to benefit fully from the statutory grace period granted by Congress. The "substantially complete" trigger adopted by the Federal Circuit results in unpredictability and, hence, such high risk of forfeiture of patent rights that it is impractical for inventors to risk enjoyment of a grace period even approximating one year. This state of affairs not only operates to the detriment of inventors, but, ultimately, to the detriment of the public.[43]

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[42] *See* Mueller, *supra* note 32, at part V, ¶ 2.

[43] *Id.* at part V, nn. 89-91 and accompanying text.

The appellate court's holding that four claims of the Pfaff '377 Patent are invalid under the Section 102(b) on-sale bar and that an additional two claims are invalid under a Section 102/103 bar is contrary to the proper construction of Section 102(b) and should be reversed.

CONCLUSION

For the foregoing reasons, Petitioner respectfully requests that the Court reverse the Federal Circuit's holding below in its entirety and remand this case for further proceedings consistent with that decision.

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Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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QUESTIONS PRESENTED

Section 102(b) of the Patent Act of 1952, 35 U.S.C. § 102(b), prohibits the patenting of an "invention" that was "on sale" in the United States more than one year before the inventor filed an application for a patent. The questions presented are:

(1) whether construction and testing of a physical embodiment of the claimed invention ("actual reduction to practice") is required before the "invention" can be "on sale" for purposes of Section 102(b);

and in particular

(2) whether petitioner had placed his "invention" "on sale" when, more than a year before he applied for his patent, he or his company (a) had made detailed engineering drawings of the same invention he later patented, (b) had contracted to sell over 30,000 units of the product described in the drawings, (c) had sent the drawings to a subcontractor for construction of customized tooling, and (d) had arranged for the manufacture of commercial production quantities of the invention, although no physical product embodying the invention had yet been built.

PARENT COMPANIES AND NONWHOLLY-OWNED SUBSIDIARIES

Respondent's parent company is PCD, Inc. Respondent has one nonwholly-owned subsidiary, Wells CTI Kabushiki Kaisha.

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BRIEF FOR THE RESPONDENT ON THE MERITS

STATUTES INVOLVED

This case requires construction of the word "invention" as used in Sections 100, 101, 102, 103 and 112 of the Patent Act of 1952, 35 U.S.C. §§ 100, 101, 102, 103, 112. The full text of those statutes is set forth in the Appendix to this brief.

STATEMENT OF THE CASE

Petitioner Wayne K. Pfaff is the inventor listed on United States Patent No. 4,491,377, issued January 1, 1985, which relates to sockets for testing a particular type of semiconductor chip. [Pet. App. 172] The Federal Circuit held all of the claims-in-suit of petitioner's patent invalid under the on-sale bar of Section 102(b) of the Patent Act, 35 U.S.C. § 102(b), because he had placed his invention on sale in this country more than one year before he applied for the patent.

1. Petitioner applied for his patent on April 19, 1982. [Pet. App. 4] Because Section 102(b) gives claimants a one-year grace period to file a patent application, the "critical date" in this case is April 19, 1981. The relevant events that occurred before that date are undisputed.

Petitioner first began work on his invention in November 1980, when Texas Instruments Corporation (TI) asked him to develop a socket for its chip carriers. Soon thereafter, petitioner, having fully thought through all the details of the new socket, completed detailed engineering drawings that accurately depicted an

embodiment of his invention. The drawings contained both precise dimensions and materials requirements, and were very similar to the drawings he later used when applying for his patent. [Pet. App. 4, 9]

At the time, petitioner was confident, based on his experience in socket design, that his invention would work. The socket invention was mechanical and not complicated. Furthermore, TI was already waiting for the finished product. Accordingly, petitioner proceeded directly from his drawings to tooling and commercial production of the sockets without building and testing a prototype. Skipping the prototype step was his customary practice for this type of invention. Thus, in February or March of 1981, well before the critical date, petitioner sent his drawings to a manufacturing contractor named Weiss-Aug, which used those drawings to proceed directly to manufacture the invention on a commercial scale. [Pet. App. 9-11]

Also before the critical date, petitioner's wholly-owned company had entered into binding sales contracts for the sockets later claimed in his patent. By February 25, 1981, TI and petitioner had discussed an order for 25,000 sockets, and on March 17, 1981, petitioner's company received a verbal purchase order for over 30,000 sockets. That purchase order was confirmed in writing on April 8, 1981, before the critical date, and petitioner subcontracted the order to Weiss-Aug. As petitioner testified, he knew before the critical date that he had a "go" situation and that he and TI had a "deal," even though the sockets were not actually delivered until July 1981, after the critical date. Petitioner acknowledges that the

transaction with TI was purely commercial; no experimentation or further development of the invention was contemplated because the invention was functional. [Pet. App. 4, 6-7; Jt. App. 96-97]

2. In 1991, petitioner filed suit against respondent Wells Electronics, Inc., alleging infringement of his patent. [Jt. App. 5, 44] The district court initially granted respondent summary judgment on grounds of non-infringement, but the Court of Appeals for the Federal Circuit reversed and remanded for further proceedings. [Pet. App. 155-69]. On remand, a special master found that certain claims in petitioner's patent were invalid but that other claims were valid and infringed. [Pet. App. 23-154] In so holding, the special master concluded that petitioner's invention had not been on sale more than one year before his patent application, reasoning that although the invention had been commercialized by that critical date, it had not been reduced to practice because no physical embodiment existed at that time. [Pet. App. 121-26] The district court adopted the special master's opinion. [Pet. App. 21-22]

3. Both sides appealed. On appeal, a unanimous panel of the Federal Circuit held all the relevant claims of petitioner's patent invalid due to the on-sale bar of Section 102(b). [Pet. App. 1-20] The court noted that it had previously rejected the premise of the district court's refusal to apply the on-sale bar: that a physical embodiment is required. [Pet. App. 7-9 (citing *UMC Elecs. Co. v. United States*, 816 F.2d 647, 657 (Fed. Cir. 1987))] Because "[t]he substantially completed socket had entered the production phase prior to the critical date and a specific purchase order was being filled" [Pet. App. 10], the court

invalidated the four patent claims whose elements all had been demonstrated by petitioner's engineering diagrams.

Petitioner argued that even if those four claims were invalid due to the on-sale bar, two other claims were still valid because they required a "barb" that was not present in the engineering drawings and products ordered before the critical date. The court of appeals invalidated the two additional claims as well, however, reaffirming long-standing precedent that, under Sections 102(b) and 103 of the Patent Act, the on-sale bar also applies to claims that would have been obvious in light of the prior art combined with what actually had been on sale as of the critical date. [Pet. App. 13-20]

4. Petitioner sought rehearing on the ground that the Federal Circuit panel had misapprehended the nature of some of the testing petitioner had performed *after* the critical date, but the panel denied rehearing without amending its published opinion. [Pet. App. 170-71] Petitioner did not suggest rehearing *en banc* or contend that the panel had applied an improper legal standard for determining whether an "invention" is "on sale." Indeed, in the courts below petitioner *never* questioned that the one-year statutory grace period can be triggered even though the claimed invention technically has not been reduced to practice in the form of a tested, fully functional physical embodiment. Petitioner's position below was simply that his "invention" was not "on sale" as those terms had been defined under *established* Federal Circuit precedent construing Section 102(b). [*See* Opening Br. of Plf./Cross-Appellant, Nos. 96-1150, 96-1187, at 7-19 (Fed. Cir. May 16, 1996)]

5. Nevertheless, petitioner sought review in this Court on the ground that the Federal Circuit has improperly construed Section 102(b)'s on-sale bar since 1984. This Court granted certiorari.[1]

SUMMARY OF ARGUMENT

1. The proper question presented is not whether Section 102(b) requires that a "fully completed" or "substantially completed" invention be on sale to trigger the on-sale bar. Neither phrase appears in the statute. The issue is whether "invention" as used in Section 102(b) requires actual "reduction to practice" as used in Section 102(g) – the embodiment of the invention in a tangible prototype and testing to demonstrate that it works for its intended purpose. It does not. Because patents issue on "inventions," "invention" must have occurred when the device, process or compound is ready for patenting. Construction and testing of a working prototype is *not* required to obtain a patent. In addition, Section 102(g) does *not* provide that "invention" occurs at reduction to practice. It governs priority between rival claimants, providing that the patent goes to the first to *conceive* so long

[1] This Court's precedent warrants dismissal of the writ as improvidently granted because of petitioner's failure to raise the question presented in the courts below. This Court generally does not pass on arguments that were not presented to the courts below. *See, e.g., Pennsylvania Dep't of Corrections v. Yeskey*, No. 97-634, slip op. 6, 1998 U.S. LEXIS 3888, at *11 (June 15, 1998); *Taylor v. Freeland & Kronz*, 503 U.S. 638, 645-46 (1992).

as he or she is diligent (even if not first) to reduce to practice.

Furthermore, petitioner's construction would cause one of two unacceptable results. If petitioner's definition were limited to Section 102(b), "invention" would mean one thing there and different things elsewhere in Section 102 and the other sections governing patentability. If his definition were applied universally, many settled principles of patent law would be undermined and the purposes of other patentability limitations would be frustrated. To the extent the statute distinguishes between completion of the inventing process ("invention") and the thing invented ("the invention"), the latter should be read to refer to the claimed invention, so that Section 102(b) only requires comparison of the claimed invention with whatever was on sale before the critical date.

2. Petitioner's proposed construction of "invention" would thwart the primary policy underlying Section 102(b). That provision serves to encourage inventors to file patent applications without undue delay, to make new technologies known promptly and to hasten the time when the public may use them. Consistent with the underlying policy, the on-sale bar denies patent rights to any inventor who delays filing for a patent more than one year after beginning to commercialize the invention. Petitioner's construction would allow commercialization for more than one year before filing whenever the inventor chooses not to build a working physical embodiment of the invention before the first commercial construction or manufacture, something easily done in many cases including the present case. That result thwarts the prompt filing policy and purpose of the statute to allow no more than one year after commercialization for filing.

Petitioner claims his construction of "invention" would provide certainty as to when the grace period commences, but it would not. "Reduction to practice" inherently is a fact-intensive and uncertain standard.

3. Petitioner's proposed definition is not supported by legislative history or required by settled judicial precedent. Nothing in the legislative history supports petitioner's proposed engrafting of reduction to practice onto "invention." While certain committee reports suggest that the grace period commences only after "full completion" of the invention, none indicate that "full completion" means reduction to practice as opposed to the completion of the inventive process. While some of this Court's older decisions outside the on-sale bar context spoke of a need for an invention to have some "physical form," any such requirement was satisfied by detailed drawings.

Moreover, in the specific context of the on-sale bar, under long-settled law that petitioner does not dispute, the bar can be triggered even where the product on sale did not incorporate all elements of the claim in the later-filed patent application. It suffices that the claimed invention would have been *obvious* in light of what was on sale more than a year before the filing. Because reduction to practice occurs only when all elements of the claim are embodied in the physical embodiment tested, the settled law shows that the on-sale bar applies even if the invention had not been reduced to practice.

4. Petitioner's invention was on sale more than a year before he filed his patent application. There is no doubt that petitioner could have filed his application at that time. The invention was fully described by detailed

engineering drawings, which were nearly identical to the drawings submitted with the patent application. Petitioner did not bother to build a prototype because he knew his simple invention would work, and a buyer was ready for delivery. Petitioner's invention was not only on sale; 30,000 units of a physical embodiment already had been sold before the critical date. The sales activity was purely commercial; no further experimentation or development was contemplated. Under any test not requiring a physical embodiment, indeed any test that will not allow the inventor to manipulate the grace period by delaying building and testing a prototype, the on-sale bar applied in this case.

ARGUMENT

I. REDUCTION TO PRACTICE THROUGH THE CONSTRUCTION AND TESTING OF A WORKING PHYSICAL EMBODIMENT IS NOT REQUIRED FOR AN "INVENTION" TO BE "ON SALE" UNDER SECTION 102(b) OF THE PATENT ACT.

Under Section 102(b) of the Patent Act, an inventor may not obtain a patent if his or her "invention" was "on sale" in this country more than one year before he or she applied for an American patent.[2] The critical issue is

[2] Section 102(b) provides:

> A person shall be entitled to a patent unless –
>
> . . . .
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States . . . .

35 U.S.C. § 102(b).

what Section 102(b) of the Patent Act means by the word "invention." Petitioner attempts to frame the issue as whether an invention must be "substantially completed" or "fully completed," but that begs the question. Even assuming an "invention" must be "fully completed," that does not answer when an inventive idea or process matures into an "invention" under the statute. The true question presented thus is whether "invention" as used in Section 102(b) and elsewhere in the Patent Act should be read to require "actual reduction to practice" – the building and testing of a working physical embodiment of the claimed invention. For the reasons that follow, it should not.[3]

[3] Petitioner's statement of the question presented contains two significant inaccuracies. It states that "fully completed" is part of the "statutory definition" of when the one-year grace period commences. The phrase "fully completed" appears nowhere in the statute. Petitioner's statement also describes his invention as "admittedly not fully completed" more than one year before he filed his patent application. Respondent in fact contends that the invention *was* complete more than one year before that filing date.

A. "Invention" Has Occurred When an Inventor Can Properly Disclose the Apparatus or Process in a Patent Application; Actual Reduction to Practice Is Not a Requirement for a Patent or for "Invention."

As is always the case with statutory construction, the proper starting point is the text of the statute. Of course, the Court considers not only the bare meaning of the word in dispute, but also its placement and purpose in the statutory scheme. *See, e.g., Bailey v. United States*, 516 U.S. 137, 145 (1995). " '[I]n expounding a statute, [the Court] must not be guided by a single sentence or member of a sentence, but look to the provisions of the whole law, and to its object and policy.' " *United States Nat'l Bank v. Independent Ins. Agents of Am., Inc.*, 508 U.S. 439, 455 (1993). "Statutory construction 'is a holistic endeavor.' " *Id.*

The Patent Act does not directly define "invention," except to say that it is a shorthand for "invention or discovery." 35 U.S.C. § 100(a). Instead, the Act defines "invention" indirectly, by saying that the inventor or discoverer of an "invention" is entitled to a patent, if certain conditions are met. "Invention" as used in the patentability sections of the Act thus means the machine, process or composition of matter that the inventor will be entitled to patent if all statutory conditions are satisfied.

Section 101 of the Act, entitled "Inventions Patentable," provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement

thereof, may obtain a patent therefor, subject to the conditions and requirements of [Title 35 of the U.S. Code]." 35 U.S.C. § 101. The requirements for a patent are clear and strict. Section 101 itself imposes requirements of novelty and utility. *Id.* Section 102 lists certain conditions that disqualify an inventor from obtaining a patent and thereby further defines when an "invention" is novel. 35 U.S.C. § 102. Section 103 further requires that the "invention" not be obvious in light of the "prior art." 35 U.S.C. § 103. And Section 112 requires the inventor's patent application to describe "the manner and process of making and using" the invention sufficiently to enable one skilled in the art to make and use it; that section also requires a description of the "best mode" contemplated by the inventor to practice the invention. 35 U.S.C. § 112. Because of the "enabling disclosure" requirement, an invention is not ready for patenting until the applicant can describe both how to make and how to use the invention.

The requirements for patentability do *not*, however, include construction and testing of a working physical embodiment of the claimed invention ("actual reduction to practice"). The Patent Act contains no such requirement, and patents are routinely granted to inventors who have never actually built and tested what they claimed. Indeed, for 100 years this Court has recognized that an "invention" exists and may be patented as soon as the inventive process has matured to the point that the inventor can provide an enabling disclosure, regardless of whether he or she has actually built and tested a working embodiment of the invention. *Dolbear v. American Bell Tel. Co.*, 126 U.S. 1, 536 (1888) ("it is enough if [the inventor]

describes his method with sufficient clearness and precision to enable those skilled in the matter to understand what the process is"; Alexander Graham Bell held entitled to patent even though he had not successfully reduced his invention to practice); *cf. Philadelphia & Trenton R.R. v. Stimpson*, 39 U.S. (14 Pet.) 448, 462 (1840) (Story, J.) ("The invention may be consummated and perfect, and may be susceptible of complete description in words, a month or even a year before it can be embodied in any visible form, machine or composition of matter.").

The reason for this rule is that conception is the creative and inventive process. Once the invention has been fully thought out so that the inventor can make an enabling disclosure of the invention, by definition one skilled in the art can reduce it to practice. As the Court of Customs and Patent Appeals recognized long ago:

> The conception of the invention consists in the complete performance of the mental part of the inventive act. *All that remains to be accomplished in order to perfect the act or instrument belongs to the department of construction, not invention.*

Townsend v. Smith, 36 F.2d 292, 295 (1929) (emphasis added); *see also In re Tansel*, 253 F.2d 241, 243 (C.C.P.A. 1958); *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985).[4]

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[4] Conception is a rigorous standard. A "mere concept" is not enough to establish "invention" and obtain a patent. The conception must be "definite and permanent enough that one skilled in the art could understand the invention." *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994), *cert. denied*, 516 U.S. 1070 (1996). The inventor must have a "specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hopes to pursue." *Id.* Moreover, in priority contests the courts have long required an inventor to prove this level of conception with corroborating evidence, preferably a contemporaneous disclosure. *Id.*

Section 102(b) of the Patent Act incorporates this standard: if the inventor can apply for a patent, he or she must do so within one year of putting the invention on the market. As this Court has observed, quoting Judge Learned Hand: " '[I]t is a condition upon the inventor's right to a patent that he shall not exploit his discovery competitively after it is *ready for patenting*.' " *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 149 (1989) (emphasis supplied) (quoting *Metallizing Eng'g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946)). When the discovery or inventive idea is "ready for patenting," it has become an "invention" for purposes of Section 102(b). Neither patentability nor "invention" requires previous construction and testing of a physical embodiment.

B. Reduction to Practice Is a Test for Determining the Priority of Inventions, Not a Test for "Invention" Itself.

Petitioner attempts to import the concept of "reduction to practice," a phrase used only in Section 102(g) of the Patent Act, into the on-sale bar, arguing that Section 102(g) somehow defines "invention" to include actual reduction to practice. That argument is fundamentally flawed.

First, Section 102(g) does not purport to define "invention." The sentence relied upon by petitioner (the second) reads:

> *In determining priority of invention* there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. § 102(g) (emphasis added).

By its terms, this provision relates to contests over the priority of invention when two or more rivals claim the same invention. *See also* S. REP. NO. 82-1979 (1952), *reprinted in* U.S.C.C.A.N. 2394, 2399 ("1952 Senate Report") ("Subsection (g) relates to the question of priority of invention between rival inventors."). Under Section 102(g), which codified prior case law, the first to conceive, not first to reduce to practice, is deemed the inventor, as long as he or she was reasonably diligent in reducing the invention to practice, either actually or constructively by filing an enabling patent application. *See, e.g., Scott v. Finney*, 34 F.3d 1058, 1061 (Fed. Cir. 1994); *see also Marconi Wireless Tel. Co. of Am. v. United States*, 320 U.S. 1, 34 (1943) ("It is well established that as between two inventors priority of invention will be awarded to the one who by satisfying proof can show that he first conceived of the invention."); *Webster Loom Co. v. Higgins*, 105 U.S. 580, 594 (1882) ("An invention relating to machinery may be exhibited either in a drawing or in a model, so as to lay the foundation of a claim to priority, if it be sufficiently plain to enable those skilled in the art to understand it.").

If priority is not an issue, Section 102(g) is irrelevant. Section 102(b) does not raise priority issues. It is a statutory bar keyed to the filing date, not the date of invention.

Second, as used in Section 102(g) itself, "invention" does not encompass reduction to practice. The second sentence of Section 102(g) actually *disproves* petitioner's thesis to the contrary. If "invention" included reduction to practice, under the first sentence of Section 102(g)[5] the first to have both conceived *and* reduced to practice always would be deemed the inventor. There would be no need for the second sentence. In fact, the second sentence codifies the 150-year-old rule that the first to conceive is deemed first to invent, *even if last to reduce to practice*, as long as he or she was reasonably diligent in filing for a patent or pursuing actual reduction to practice.[6] *See, e.g., Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572,

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[5] The first sentence, including the Section 102 preamble, reads:

> A person shall be entitled to a patent unless –
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> . . . .
>
> (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it.

35 U.S.C. § 102(g).

[6] Before the Patent Act of 1836, priority was determined according to who first reduced the invention to practice, suggesting that reduction to practice was an aspect of invention. In *Bedford v. Hunt*, 3 F.Cas. 37 (C.C.D. Mass. 1817), Justice Story (then sitting as a circuit justice) held that "[t]he first inventor, who has put the invention in practice, and he only, is entitled to a patent." Courts construing the Patent Act of 1836 reached a different result, however. Justice Story, again sitting as a circuit

1577 (Fed. Cir. 1996); *Scott*, 34 F.3d at 1061. Thus, one obtains priority by being first to have fully thought through the invention. Only if an inventor is not diligent in reducing to practice does the defeasibility provision of Section 102(g) strip him or her of the right to a patent.[7]

In sum, if "invention" is construed to encompass actual reduction to practice, the long-settled rules of priority will be in disarray, and the language of Section 102(g) will become internally irreconcilable.

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justice, recognized that the old rule was "qualified" by the 1836 Act and concluded that priority goes to the inventor first to conceive provided that he or she was reasonably diligent in reducing the invention to practice. *Reed v. Cutter*, 20 F. Cas. 435, 438 (C.C.D. Mass. 1841). That rule still governs today.

[7] It is true in a sense that every invention that has been patented has been "reduced to practice," but only because every patent requires a patent application, which under a legal fiction is deemed a "constructive" reduction to practice. *See, e.g., Hazeltine Corp. v. United States*, 820 F.2d 1190, 1196 (Fed. Cir. 1987); *Weil v. Fritz*, 572 F.2d 856, 865-66 n.16 (C.C.P.A. 1978) (constructive reduction to practice is defined "as the filing of 'a complete and allowable application' "). But the patent application cannot be deemed the inventive act; it merely confirms a previous invention. To hold that an "invention" exists when a patent application is filed but not the day before when the application has been fully drafted would exalt form over substance.

C. Petitioner's Definition of "Invention" Is Inconsistent with Other Uses of the Word in Patentability Sections of the Patent Act.

Petitioner's proposed definition of "invention" leads to two alternative results, each unacceptable. The first is that "invention" encompasses reduction to practice in Section 102(b), but not in Section 101, other subparts of Section 102 or Section 103. That result violates the norm of statutory construction that where the same term is used in closely related portions of a statute, it is presumed to have the same meaning throughout. *See, e.g., Commissioner v. Lundy*, 516 U.S. 235, 249-50 (1996); *Sullivan v. Stroop*, 496 U.S. 478, 484 (1990).

The second alternative is to construe "invention" to require actual reduction to practice throughout the statute. Doing so, however, would disrupt well-settled principles and policies of patent law, as the following examples show:

Prior Art Date. Sections 102(a), (e) and (g) of the Patent Act all deal with prior art dated "before the [applicant's] invention." 35 U.S.C. § 102(a), (e), (g). Similarly, Section 103(a) determines obviousness as of "the time the invention was made." 35 U.S.C. § 103(a). If "invention" required actual reduction to practice, then "the time the invention was made" under Section 103 and the prior art cutoff under Section 102 would refer to the date the invention was reduced to practice. Under well-settled case law and Patent Office procedures, however, the critical date for prior art is the date of *conception*, as long as the inventor was reasonably diligent in filing for a patent or reducing to practice. *See, e.g., Mahurkar v. C.R. Bard*, 79

F.3d at 1577; 2 DONALD S. CHISUM, CHISUM ON PATENTS § 5.03[2][a] (1998) (the "date of invention" for antedating a reference under Section 103 is determined in the same manner as it is under Section 102); 37 C.F.R. § 1.131(b). Petitioner's redefinition of "invention" would undermine decades of settled practice.

Prior Knowledge, Use or Description. Section 102(a) of the Patent Act precludes issuance of a patent where

> the *invention* was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the *invention* thereof by the applicant for patent.

35 U.S.C. § 102(a) (emphasis added). This condition ensures that the applicant cannot get a patent on a machine or process that is not novel. Under settled precedent since before the Federal Circuit's creation, disqualifying prior knowledge under Section 102(a) does *not* have to relate to an invention that was already reduced to practice. *In re Borst*, 345 F.2d 851, 855 (C.C.P.A. 1965) (under Section 102(a) prior knowledge "need not be of an invention reduced to practice, either actually or constructively"). Under petitioner's proposed interpretation, an "invention" described in enabling detail in print years before a patent was sought would not bar the applicant from obtaining a patent on the old idea, so long as it was never reduced to practice. The evident purpose of the provision would be frustrated.

Although this Court has not had occasion to reach the question, Justice Holmes's opinion for the Court in

Alexander Milburn Co. v. Davis-Bournonville Co., 270 U.S. 390 (1926), supports this construction of Section 102(a). In holding that a patent speaks as prior art as of the date of the application for the patent, *Alexander Milburn* also considered whether a patent was invalid as a result of technology known and disclosed, but not claimed, in a previously filed patent application. *Id.* at 400-01. In holding that the later patent was invalid in light of the previously disclosed material, the Court emphasized that the disclosure demonstrated that the patentee was not the first to invent. *Id.* at 399-400. This was so, even though the disclosed technology had not been actually reduced to practice, and (because it was not claimed) it had not been constructively reduced to practice. *Id.* at 400.

Petitioner's definition of "invention" likewise cannot be squared with the plain language of Section 102(b) relating to prior art in printed publications, which reads:

> A person shall be entitled to a patent unless . . . (b) the *invention* was patented or described in a printed publication . . . more than one year prior to the date of the application for patent . . . .

35 U.S.C. § 102(b) (emphasis added). If, as petitioner argues, "invention" requires reduction to practice for purposes of the on-sale bar, then even if the claimed invention had been "described in a printed publication" in enabling fashion, the printed publication would not bar patenting if the invention had not been reduced to practice. This result, obviously contrary to the intent of the statute, is also contrary to *Alexander Milburn*, which confirmed that a printed publication can be invalidating prior art even if what it describes has never been reduced

to practice. *Accord In re Donohue*, 766 F.2d 531 at 533 (Fed. Cir. 1985) (invention described in prior publication did not have to be actually reduced to practice to constitute invalidating prior art).[8]

Petitioner's reading also would undermine Section 102(e), which codified the Court's holding in *Alexander Milburn* that a patent speaks as prior art as of the date of the patent application. A patent may not issue if

> the *invention* was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent . . . .

35 U.S.C. § 102(e) (emphasis added); *see* 1952 Senate Report at 2410 (intent to codify *Alexander Milburn*). Once again, if "invention" as used in Section 102(e) requires actual reduction to practice, teachings described in a patent but not yet reduced to a physical embodiment are not disqualifying prior art. That is contrary to the Court's analysis in *Alexander Milburn*.

Abandonment. Section 102(c) of the Patent Act precludes patenting where the claimant "has abandoned the

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[8] *Eames v. Andrews*, 122 U.S. 40 (1887), is not to the contrary. That case holds that for a printed publication to constitute prior art, "the account published . . . must be an account of a complete and operative invention, capable of being put into practical operation." *Id.* at 66. An invention can be "capable of being put into practical operation" before it has actually been reduced to practice. *Cf. Philadelphia & Trenton R.R.*, 39 U.S. at 460 ("It might take a year to construct a steamboat, after the inventor had completely mastered all the details of his invention, and had fully explained them to all the various artisans whom he might employ to construct the different parts of the machinery.").

invention." 35 U.S.C. § 102(c). Abandonment may occur either by express declaration or by conduct. *See, e.g., Kendall v. Winsor*, 62 U.S. (21 How.) 322, 331 (1859). An "invention" can be abandoned even before the invention has been reduced to practice in the form of a working, tested embodiment. *See Gayler v. Wilder*, 51 U.S. (10 How.) 477, 497-98 (1850) (prior invention held abandoned even though it had not been "tested" as would be required under modern definition of "reduction to practice"). Surely, for example, under Section 102(c) an inventor who describes an invention in print and expressly dedicates it to the public should be deemed to have abandoned the invention and cannot thereafter retract that dedication and obtain a patent. But under petitioner's proposed definition of "invention," if no working prototype had been constructed and tested, such printed description and dedication would not bar the subsequent application because what was described and dedicated was not an "invention." That result is contrary to the plain intent of the statute.

Petitioner's view also runs contrary to the "dedication to the public" doctrine. Material disclosed but not claimed in an issued patent is often held abandoned by dedication to the public. *McClain v. Ortmayer*, 141 U.S. 419, 420 (1891); *Edward Miller & Co. v. Bridgeport Brass Co.*, 104 U.S. 350, 352 (1882); *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1105-06 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1244 (1997); *In re Gibbs*, 437 F.2d 486 (C.C.P.A. 1971). Abandonment in this manner does not require consideration of whether the unclaimed matter has been reduced to

practice. *See Maxwell*, 86 F.3d at 1105-06; *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562-63 (Fed. Cir. 1991).[9]

D. "Invention" Has Two Grammatical Uses in Sections 102 and 103, But Neither Requires Actual Reduction to Practice.

Grammatically, "invention" is used two ways in Sections 102 and 103 of the Patent Act. At times it refers to the thing invented, and at times it refers to the act or process of inventing. Section 102(a), for example, refers to an "invention . . . known or used by others in this country . . . before the invention thereof by the applicant for patent." 35 U.S.C. § 102(a). The first use of "invention" clearly refers to the thing invented, while the second refers to completion of the process of inventing.

For present purposes, those two grammatical uses may be read consistently: when "invention" (the process) is complete, an "invention" (the thing) exists and may be patented, subject to the requirements of Sections 101, 102, 103 and 112. As demonstrated above, the inventive process is complete and a patent may be issued on the thing invented before actual reduction to practice occurs, and priority against other art or claimed inventions is generally determined according to the date of conception, not the date of reduction to practice.

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[9] *But cf. Corrège v. Murphy*, 705 F.2d 1326, 1328 (Fed. Cir. 1983) (stating that there can be no abandonment before actual reduction to practice but not considering the "dedicated to the public" line of cases).

If there is any inconsistency, however, it further undermines petitioner's proposed definition. "Invention" as used to refer to the thing invented may be read to refer to the invention ultimately claimed in the patent application. This "claimed invention" reading accords with the way patent lawyers, the Patent and Trademark Office and courts in patent infringement cases all apply Sections 102 and 103 in practice. In patentability disputes, the questions are whether references of the types listed in Section 102 anticipated the invention described by the claims, or whether that art at least rendered the claims obvious, precluding a patent under Section 103.

Section 102(b) uses "invention" to refer only to the thing invented. Thus, if "invention" (the thing invented) means "claimed invention," the on-sale bar would provide: "the [claimed] invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." On this view, the court or patent examiner would compare the claims in the patent application with whatever product was on sale before the critical date. The developmental stage of that product, including reduction to practice, would be irrelevant (so long as the sale was primarily for commercial purposes and not for experimental use). In a recent on-sale bar case, Judge Bryson adopted this approach:

> [T]he language and policies of the statute are best captured by the following rule: if the sale or offer in question embodies the invention for which a patent is later sought, a sale or offer to sell that is primarily for commercial purposes

and that occurs more than one year before the application renders the invention unpatentable.

Seal-Flex, Inc. v. Athletic Track & Court Constr., 98 F.3d 1318, 1325 (Fed. Cir. 1996) (concurring opinion); *see also* William C. Rooklidge, *Application of the On-Sale Bar to Activities Performed Before Reduction to Practice*, 72 J. PAT. & TRADEMARK OFF. SOC'Y 543 (1990).

In short, the on-sale bar can be read to require that the inventive process be completed, or it can be read simply to require a comparison of claimed invention with what was on sale before the critical date. Either way, however, the one-year grace period may start to run even though the item on sale had not yet been reduced to practice.

II. REQUIRING CONSTRUCTION AND TESTING OF A PHYSICAL EMBODIMENT BEFORE THE ON-SALE BAR CAN BE TRIGGERED WOULD THWART THE POLICIES BEHIND SECTION 102(b) AND WOULD NOT PROMOTE CERTAINTY IN ITS APPLICATION.

In construing statutes, this Court's goal is to effectuate Congress's intent. As part of that analysis, this Court considers the design of the statute as a whole and the policies that Congress was trying to promote in adopting the statute. *See, e.g., Crandon v. United States*, 494 U.S. 152, 158 (1990). Petitioner's construction of "invention" in Section 102(b) runs contrary to Congress's purposes in adopting that provision. Moreover, the claimed policy benefit of petitioner's construction (certainty) is illusory.

A. Petitioner's Construction Would Allow Inventors Who Have Begun to Commercialize Their Inventions to Extend Their Statutory Monopolies by Delaying Both Reduction to Practice and Filing for Patent.

The patent laws "embod[y] a carefully crafted bargain for encouraging the creation *and disclosure* of new, useful, and nonobvious advances in technology . . . in return for the exclusive right to practice the invention for a [limited] period of years." *Bonito Boats*, 489 U.S. at 150-51 (emphasis supplied). In exchange for exclusivity, the public receives two benefits: (1) the publication of the enabling disclosure and statement of best mode contemplated for practicing the invention that must be provided to obtain the patent; and (2) the right to use the invention freely when the patent expires. *Id.*; *United States v. Dubilier Condenser Corp.*, 289 U.S. 178, 186-87, *modified*, 289 U.S. 706 (1933).

Section 102(b) of the Patent Act serves these broad policies by encouraging prompt filing of patent applications – and by discouraging undue delay in filing them. Prompt filing promotes widespread public disclosure of new technology in the form of issued patents and prevents undue delay of the time when the invention may be used freely by all. The on-sale bar "prevent[s] the inventor from commercially exploiting the exclusivity of his invention beyond the statutorily authorized 17-year [or now 20-year] period." *General Elec. Co. v. United States*, 654 F.2d 55, 60-61 (Ct. Cl. 1981).

As this Court recognized even before Congress adopted the on-sale bar, allowing inventors to delay

unduly the passage of their invention into the public domain retards, rather than promotes, the useful arts. *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 19 (1829) (to allow an inventor to first commercialize and then patent only when forced to by competition "would materially retard the progress of science and the useful arts, and give a premium to those who should be least prompt to communicate their discoveries"). As Judge Hand later observed, although privately practicing an invention does not "mak[e] use of [the inventor's] secret to gain a competitive advantage over others," "exploit[ing] [the] discovery competitively after it is ready for patenting" improperly "extend[s] the period of his monopoly." *Metallizing Engineering*, 153 F.2d at 520. Section 102(b) was designed to prevent just that.[10]

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[10] As Judge Easterbrook has written:

> Judges sometimes say that the function of a rule such as Section 102(b) is preventing the "extension" of the patent monopoly. Ordinary sales *in competition* do not yield monopoly profits, and the longer an inventor sells his product without seeking a patent, the more competition there is likely to be. Yet the threat of a patent application in the background may stifle the power of competition. A potential rival deciding whether to invest in equipment to make the product must consider the possibility that after costs have been sunk, the inventor will apply for a patent. Fear of losing their investment may discourage rivals and enable the inventor to collect supra-competitive profits before obtaining a patent. Section 102(b) limits to one year the duration of this *in terrorem* effect.

In re Mahurkar Double Lumen Patent Litig., 831 F. Supp. 1354, 1369 (N.D. Ill. 1993), *aff'd*, 71 F.3d 1573 (Fed. Cir. 1995).

Petitioner's proposed construction would thwart this fundamental purpose. An inventor could effectively enlarge the one-year grace period by neither actually reducing to practice nor filing for a patent on the completed invention while offering it for sale and completing all preparations for manufacture. Indeed, as discussed in Section IV below, that is precisely what happened in this case.[11]

Ironically, although petitioner purports to rely on Section 102(g)'s reference to reduction to practice, he ignores that his proposed construction is contrary to the purpose of that very provision. The second sentence of Section 102(g) encourages an inventor to proceed diligently to build a working embodiment of the invention (actually reduce it to practice) or to file a patent application (constructively reduce it to practice). Yet if reduction

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[11] It might be argued that, as a practical matter, the improper extension of the statutory monopoly would not be great because commercialization eventually will require a physical embodiment through the sale of actual goods (merely putting patent *rights* on sale has been held not to trigger the "on sale" requirement, *see Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1267 (Fed. Cir. 1986)). But the statute must apply to an infinite variety of fact situations, and delay in reduction to practice may be lengthy in some cases. More importantly, any attempt to alter the balance established by Congress in Section 102(b) is improper. Congress has already expressed its concern that even short delays in patent applications can allow too much commercialization. In 1939, Congress cut the statutory grace period for filing applications from two years to one precisely because two years allowed inventors to handicap the public excessively. Patent Act of 1939, ch. 450, § 1, 53 Stat. 1212 (1939); *See* H.R. Rep. No. 76-961, at 1 (1939) ("1939 House Report"); S. Rep. No. 76-876, at 1 (1939) ("1939 Senate Report").

to practice is required before the one-year period begins to run, inventors will be encouraged to delay that reduction to practice so that they can effectively extend their statutory monopolies. This is not simply a theoretical concern. Given today's computer simulation techniques, physical embodiments often are not necessary until commercial production begins.

B. Engrafting Actual Reduction to Practice onto "Invention" Would Not Provide Additional Certainty in the Application of the On-Sale Bar.

The main argument petitioner and amici advance for requiring actual reduction to practice before the on-sale bar's grace period commences is that inventors need a well-understood, predictable, easily applied, bright-line rule to know when they must apply for a patent. Petitioner's promise of certainty is illusory. Even a cursory review of interference cases under 35 U.S.C. § 102(g) demonstrates that an "actual reduction to practice" requirement provides no bright line, but almost always entails uncertain, fact-intensive analysis.

"[P]roof of actual reduction to practice requires demonstration that the embodiment relied upon as evidence of priority actually worked for its intended purpose . . . [and] that every limitation of the [claimed invention] must exist in the embodiment and be shown to have performed as intended." *Newkirk v. Lulejian*, 825 F.2d 1581, 1582 (Fed. Cir. 1987); *see also* 3 CHISUM ON PATENTS § 10.06 at 10-156 ("Actual reduction to practice occurs when the inventor (1) constructs a product or performs a process that is within the scope of the patent claims, and

(2) demonstrates the capacity of the inventive idea to achieve its intended purpose.")

As an initial matter, then, actual reduction to practice of an invented machine requires the construction of a physical embodiment of the machine that includes every essential limitation of the claim. The test of whether "every limitation" exists in the subject embodiment is the same test used for determining patent infringement. *See, e.g., SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). Determining reduction to practice may be no less complex than determining infringement, commonly the subject of lengthy trials.[12]

The requirement that the embodiment be tested sufficiently to demonstrate its functionality adds further uncertainty to the date of reduction to practice. As the Federal Circuit has observed, "the character of the testing varies with the character of the invention and the problem it solves." *Scott*, 34 F.3d at 1062. Whether testing is adequate may turn on whether the results were appreciated or understood [*see, e.g., Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588 (Fed. Cir. 1997)], and on whether the claim is a method claim or an apparatus claim [*see, e.g.,*

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[12] Petitioner's standard would also allow clever claims draftsmen to control whether every limitation of the claimed invention existed in the subject embodiment. In some cases, the applicant would want to establish an early date for actual reduction to practice (for priority purposes); in others, a later one (to avoid the on-sale bar, under petitioner's construction). *See UMC Elecs.*, 816 F.2d at 655 ("by invoking reduction to practice as developed in interference law, an inventor might be able to escape the on-sale bar simply through deft claim draftsmanship"). Although some such gamesmanship may be inevitable, it should not be encouraged.

Fujikawa v. Wattanasin, 93 F.3d 1559 (Fed. Cir. 1996)]. Litigants frequently dispute whether testing adequately demonstrates that the invention will work in its intended environment. *See, e.g., Scott*, 34 F.3d at 1061; *DSL Dynamic Sciences Ltd. v. Union Switch & Signal, Inc.*, 928 F.2d 1122 (Fed. Cir. 1991). Ultimately, "[d]rawing the line between operability, which is required [for reduction to practice], and commercial refinement, which is not, is a difficult task." 3 CHISUM ON PATENTS § 10.06[2][a] at 10-172.

In short, the improper engrafting of "reduction to practice" onto "invention" would not provide inventors with any bright-line certainty as to when they must file. Probably no standard can. And in any event, conception and enabling disclosure are no less universally understood, no less easily applied and no less predictable.[13]

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[13] Various writers, though not petitioner, have urged that "invention" triggering Section 102(b) be delayed until actual reduction to practice in order not to encourage premature patent applications. The answer to that is fourfold. First, to avoid triggering the on-sale bar, the inventor can simply not put the invention on sale. Second, the application need not be filed immediately: Section 102(b) provides a one-year grace period during which time the inventor can determine whether an application is worthwhile. Third, the "experimental use" exception allows the inventor to use and even sell products embodying the inventive idea while refining it without triggering Section 102(b), so long as the primary purpose is experimental, not commercial. *See, e.g., City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126 (1878). And fourth, to preserve timeliness and avoid unnecessary early complication, the inventor can file a provisional patent application requiring only a specification and drawing but not claims. *See* 35 U.S.C. § 111(b).

III. NEITHER THE LEGISLATIVE HISTORY NOR THE CASE LAW ON SECTION 102(b) REQUIRES A TESTED, WORKING PHYSICAL EMBODIMENT BEFORE THE ON-SALE BAR CAN BE TRIGGERED.

Petitioner misconstrues both the legislative history of the Patent Act and the precedents of this Court and the lower courts that have applied it.

A. The Legislative History of the Patent Act Provides No Basis for a Reduction to Practice Requirement.

Petitioner correctly notes that when Congress shortened the statutory grace period for the bar that now appears in Section 102(b), its legislative staff stated that the old 1870 statute

> permit[ted] an inventor, after his invention is fully completed, to make the invention known to the public for a period of 2 years before filing his application for patent.

1939 House Report at 1; 1939 Senate Report at 1. But petitioner simply assumes that the authors of the report intended or understood "fully completed" to mean "actually reduced to practice." The legislative history nowhere supports that assumption.

Indeed, the context suggests that the legislative staff did *not* equate "full completion" with "actual reduction to practice." The very next sentence explained what was meant by making a "fully completed invention" known to the public:

> An invention may be described in print, sold, and used widely by anyone . . . and after a period of up to 2 years, an application for patent can be filed by the original inventor and a valid patent obtained . . . .

1939 House Report at 1; 1939 Senate Report at 1. If "fully completed invention" meant an invention that had been "actually reduced to practice," then a description in print could not preclude a patent unless the description was of an invention that had been actually reduced to practice. As *Alexander Milburn* illustrates, that was not then and is not now the law. 270 U.S. at 399-400; *see also Graham v. John Deere Co.*, 383 U.S. 1, 6 (1966) (Congress is precluded by the Constitution from "authoriz[ing] the issuance of patents whose effects are to remove existent knowledge from the public domain").[14]

Petitioner also cites the 1939 committee reports' reference to "when the invention is made," suggesting that "is made" means "actual reduction to practice." [Pet. Br. 21] Again, the legislative history contains no support for this conclusion. Discussions as to how an invention "was made" commonly refer to conception of an invention. For example, Section 103(c) of the current Patent Act states

[14] Even if "full completion" were read to require actual reduction to practice, this snippet of legislative history does not prove petitioner's point. The sentence with that language simply says that if an inventor publicizes the invention after reduction to practice, he or she has two years (now one year) to file. Everyone agrees with that. The committee report does *not* say that the inventor would have more than two years (now one year) to file if the publication occurred *before* reduction to practice, which is petitioner's position.

that "[p]atentability shall not be negatived by the manner in which the invention *was made*." 35 U.S.C. § 103(c) (emphasis added). That sentence was intended to abolish the "flash of genius" test for *conception* that this Court previously had appeared to apply. *Graham*, 383 U.S. at 15; *see also* S. REP. NO. 82-1979, at 18 (1952) (sentence designed to provide that "it is immaterial whether [an invention] resulted from long toil and experimentation or from a flash of genius"). Likewise, Section 103(a) provides that obviousness is determined as of when "the invention was made," and, as noted above, it is well settled that the relevant date is the date of conception, not the date of reduction to practice. *See also* 15 U.S.C. § 3703(9), (10) (defining "invention" to be the same as under the Patent Act, and defining "made" as "the conception *or* first actual reduction to practice of such invention" (emphasis supplied)).[15]

B. If Anything, this Court's Decisions Suggest that "Invention" Does *Not* Require a Working Embodiment.

Petitioner cites *Clark Thread Co. v. Willimantic Linen Co.*, 140 U.S. 481 (1891), and *T.H. Symington Co. v. National Malleable Castings Co.*, 250 U.S. 383 (1919), in support of

[15] In *Austin v. Marco Dental Prods., Inc.*, 560 F.2d 966, 970 (1977), the Ninth Circuit suggested that the legislative history of the *1836* Patent Act somehow supported a reduction to practice requirement for the on-sale bar. Suffice it to say that the section relied on (which discussed the need for time to improve on inventions) did not even relate to the on-sale bar. *See* S. REP. NO. 24-338, at 6 (1836). Petitioner understandably does not rely on it.

his position that "reduction to practice" is required for "invention." Those cases, however, did not require true reduction to practice (demonstration of the operability of a prototype) for "invention"; in fact, they made clear that engineering drawings satisfied any physical embodiment requirement.

Clark Thread suggested in *dicta* that "[a] conception of the mind is not an invention until represented *in some physical form.*" 140 U.S. at 489 (emphasis added). But that formulation certainly is not the same as the Section 102(g) "reduction to practice" standard advocated by petitioner. Indeed, as *Clark Thread* explained, sufficiently detailed drawings would have satisfied its "physical form" requirement. *Id.* at 489-90. Only because of the inadequate evidence of timely drawings or other clear proof of prior conception – an evidentiary problem – did the Court conclude that the "invention" there had not been "completed" until construction of the machine. *Id. T.H. Symington* later equated *Clark Thread*'s "physical form" requirement with "models, drawings or some kindred evidence." 250 U.S. at 383. Thus it too cannot be read as requiring construction and testing of a physical embodiment before an "invention" occurs. Petitioner is correct that this Court's earlier decision in *Seymour v. Osborne* noted that to "constitute an invention, the party must have proceeded so far as to have reduced his idea to practice, and embodied it *in some distinct form.*" 78 U.S. (11 Wall.) 516 (1871) (emphasis added). But *Seymour*'s "distinct form" requirement need not be read to require any more than the drawings demanded by the Court in *Clark Thread* and *T.H. Symington*.

Petitioner also cites *Corona Cord Tire Co. v. Dovan Chem. Corp.*, 276 U.S. 358 (1928), but that case is inapposite. It involved a prior invention defense to a patent infringement claim, and thus presented a classic question of priority, which requires consideration of reduction to practice. *Id.* at 382. There apparently was no issue as to who was first to conceive the invention. Indeed, the Court strongly intimated that the invention was such that conception could have occurred only when the invention was demonstrated by an actual reduction to practice. *Id.* at 368-69 ("The catalytic action of an accelerator can not be forecast by its chemical composition, for such action is not understood and is not known except by actual test.") Ordinarily, of course, conception predates reduction to practice.

C. This Court and the Lower Courts Have Long Held that the Statutory Bar Can Apply Even Though the Item on Sale Did Not Incorporate All Elements of the Claimed Invention and Hence the "Invention" Had Not Been Reduced to Practice.

For over 100 years, this Court and the lower courts have consistently recognized that the statutory bar of Section 102(b) and its predecessors can be triggered even when the physical product on sale did *not* incorporate all elements later claimed in the patent application, and hence the claimed invention had not been reduced to practice.

In *Hall v. Macneale*, 107 U.S. 90 (1883), the Court held that a patent claim on certain bolts was invalid because the "invention" had been in use and on sale more than

two years before the patent application, even though the eventual patent claim also required screw-threads and the bolts sold earlier did not have screw-threads. *Id.* at 96; *see also International Tooth-Crown Co. v. Gaylord*, 140 U.S. 55 (1891) (applicant abandoned dental invention to public by publicly using it for profit two years before application; even though later patent claimed additional elements, those were obvious). Through the years it has remained settled that for the Section 102(b) bar to apply, the product "on sale" before the critical date need not be strictly identical to – embody all the limitations of – what is claimed in a patent application or patent. The statutory bar also applies if the claimed invention would have been *obvious* in light of what was on sale more than a year before the patent application.

Because of the obviousness standard, the Federal Circuit often refers to this as the "Section 102(b)/103 bar." *See, e.g., Lough v. Brunswick Corp.*, 86 F.3d 1113, 1122 n.5 (Fed. Cir. 1996), *cert. denied*, 118 S. Ct. 43 (1997); *UMC Elecs.*, 816 F.2d at 655-56. But the doctrine existed long before Section 103 was codified, and several courts have suggested that inherent in Section 102(b) standing alone is the principle that

> public disclosure of an invention more than a year before a patent application is filed forecloses patentability, not only of the precise embodiment disclosed, but also of subsequent novel improvements unless such an improvement is itself patentable as an invention.

Frantz Mfg. Co. v. Phenix Mfg. Co., 457 F.2d 314, 320 (7th Cir. 1972) (Stevens, J.); *accord In re Foster*, 343 F.2d 980, 988 (C.C.P.A. 1965).

Whether derived from Section 102(b) alone or from the combination of Sections 102(b) and 103, this settled rule cannot be reconciled with petitioner's argument that Section 102(g) reduction to practice is inherent in the Section 102(b) on-sale bar. Again, Section 102(g) reduction to practice requires that *all elements* of the claim be present in a physical embodiment. *Hall v. Macneale* and its progeny demonstrate that the on-sale bar can apply even though all elements of the claim were *not* embodied in a physical product on sale before the critical date.

Tellingly, petitioner does not challenge this settled principle.[16] Petitioner has relied on the dissenting opinion in *UMC Electronics*, which recognized that Section 102(b) contains no such strict identity requirement but argued that "it is the 'thing offered' which must have been reduced to practice." 816 F.2d at 661 (Smith, J., dissenting). But "reduction to practice" is a concept applicable to an "invention," not to a product or "thing offered." And under settled law, the claimed invention itself need not have been reduced to practice for the on-sale bar to apply.

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[16] The Federal Circuit below relied on this rule to invalidate all the claims in suit, even those containing a barb that was not present on the sockets to be delivered to TI. [Pet. App. 13-15, 20] Petitioner has not sought review of that holding, only the basic Section 102(b) holding that was the predicate to the Federal Circuit's 102(b)/103 analysis.

D. Pre-Federal Circuit Precedent Applied Section 102(b) Inconsistently and Did Not Strictly Require Reduction to Practice as Used in Section 102(g).

Petitioner also suggests that before the Federal Circuit's decision in *UMC Electronics*, the lower courts had consistently applied Section 102(b) and its predecessors to require Section 102(g)-like actual reduction to practice. [Pet. Br. 23-24; Pet. 9-10] Not so: the law had been inconsistent for decades, and in any event the courts did not strictly apply a true Section 102(g) "actual reduction to practice" standard.

Beginning in 1912, a few lower courts held, with little reasoning or analysis, that the on-sale bar grace period could not be triggered unless an offer for sale was made while product was "on hand," in inventory and ready for delivery. *See, e.g., B.F. Sturtevant Co. v. Massachusetts Hair & Felt Co.*, 124 F.2d 95 (1st Cir. 1941); *Burke Elec. Co. v. Independent Pneumatic Tool Co.*, 234 F. 93 (2d Cir. 1916); *McCreery Eng'g Co. v. Massachusetts Fan Co.*, 195 F. 498 (1st Cir. 1912). Most of the circuits, however, had not decided the issue, and ultimately the "on hand" doctrine became discredited by both courts and commentators. *See, e.g., Timely Prods. Corp. v. Arron*, 523 F.2d 288, 299-302 (2d Cir. 1975); *Dart Indus., Inc. v. E.I. Du Pont De Nemours & Co.*, 489 F.2d 1359, 1365 (7th Cir. 1973) (Stevens, J.); *Philco Corp. v. Admiral Corp.*, 199 F. Supp. 797, 814-18 (D. Del. 1961) (noting tension of "public use" cases with "on hand" doctrine and describing Section 102(b) case law as "in a state of confusion"); Robert A. Reed, Note, *The "On Sale" Provision as a Bar to Patentability*, 27 U. PITT. L. REV. 887, 890 (1966).

To be sure, some of the courts rejecting the "on hand" doctrine purported to continue to require "reduction to practice" before the on-sale bar could be triggered. *See, e.g., Timely Prods.*, 523 F.2d at 299-302. But actual reduction to practice as used in Section 102(g) was *not* required. Some courts interpreted the supposed "requirement" of "reduction to practice" as not requiring a fully completed physical embodiment. *See, e.g., Red Cross Mfg. Corp. v. Toro Sales Co.*, 525 F.2d 1135, 1141 (7th Cir. 1975) ("essential completion" standard); *Langsett v. Marmet Corp.*, 231 F. Supp. 759 (W.D. Wis. 1964) (on-sale bar applied even though only detailed drawings existed at time of sales activity); *see also Jamesbury Corp. v. Worcester Valve Co.*, 443 F.2d 205, 211 n.9 (1st Cir. 1971) (diagrammatic or written explanation constitutes reduction to practice if sufficient to enable one of ordinary skill to manufacture invention).

Furthermore, as discussed above, *none* of the courts required that all elements of the *invention itself* have appeared in a tested physical embodiment before the on-sale bar could be triggered, as would be the case if a true Section 102(g) standard applied. What is now called the Section 102(b)/103 bar applies if the claimed invention would have been *obvious* to skilled artisans in light of what had been on sale more than a year before the patent application. Even the courts that purported to graft "reduction to practice" onto Section 102(b) also recognized the 102(b)/103 bar and hence created an exception where some limitations of the patent had no physical

embodiment but nevertheless could be easily reduced to practice. *See, e.g., Timely Prods.*, 523 F.2d at 302 (complete invention must be either embodied in *or obvious in view of* the thing offered for sale before critical date).

In short, there simply was no settled body of law adopting the standard petitioner advocates, either in this Court or the lower courts.

IV. UNDER ANY REASONABLE STANDARD, PETITIONER'S INVENTION WAS ON SALE MORE THAN A YEAR BEFORE HE FILED HIS PATENT APPLICATION.

The facts of this case well illustrate why petitioner's importation of Section 102(g) actual reduction to practice into Section 102(b) must be rejected.

It is undisputed that petitioner had fully completed his inventive process before he began to commercialize his invention, and more than a year before he filed his patent application. He had detailed engineering drawings that accurately depicted a full embodiment of his invention. [Pet. App. 9] It is equally clear that before any sales order was received, petitioner could have filed a patent application with an enabling disclosure. The detailed engineering drawings in fact enabled his manufacturer to prepare customized tooling and proceed to commercial production of the sockets. [Pet. App. 9-10] No further inventive activity occurred or was needed. Furthermore, not only were petitioner's sockets on sale, but over 30,000 units had already been sold by the critical date. [Pet. App. 7] There is no doubt that what was on sale was also what petitioner belatedly patented. Petitioner's engineering drawings were very similar to (indeed, more detailed than) the actual drawings submitted to obtain the patent. [Pet. App. 9] And finally, there is no dispute that petitioner's sales activity was purely commercial, with no additional experimentation or development planned. [Pet. App. 7][17]

Under any reasonable reading of Section 102(b), there can be no doubt that petitioner placed his "invention . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." 35 U.S.C. § 102(b).

Even if the Court believes that some physical representation of the invention is required to trigger the one-year clock, any such requirement should be held satisfied in this case. Petitioner was in position to prepare and file a patent application when he put his invention on sale,

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[17] Contrary to the suggestion of some amici, this case does *not* implicate the inventor's need to experiment and test inventive ideas that are not fully developed. As the Federal Circuit found, petitioner was *not* experimenting with the technology; he knew it would work, which is precisely why he decided to proceed directly from drawings to commercial-scale production without manufacturing prototypes first. [Pet. App. 7, 10-11] This Court and the lower courts have recognized that there may be experimental uses or sales that will not trigger the one-year grace period of Section 102(b). *See, e.g., City of Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126 (1878) (experimental use); *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717 (Fed. Cir. 1990) (experimental sale). But the proper scope of the experimental use/sale doctrine is simply not an issue in this case.

and, like a proper patent application, his drawings enabled one skilled in the art to build and use a working physical embodiment. If a patent application constitutes "constructive reduction to practice" for purposes of Section 102(g), then petitioner's conduct should be deemed a "constructive reduction to practice" for purposes of Section 102(b). Notably, in some respects petitioner had gone even further than "actual reduction to practice" requires. Petitioner had actually developed (if not yet constructed) a commercial embodiment of his invention more than one year before the critical date. Petitioner not only knew his invention would work, but had fully designed a commercial embodiment, including detailed drawings specifying exact dimensions, manufacturing tolerances and materials for each part of his sockets – conduct required for commercialization, but *not* for an actual reduction to practice.[18] [Pet. App. 9]

To hold that petitioner's invention was not on sale on these facts would be both bad law and bad policy.

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[18] In *Seal-Flex v. Athletic Track & Court Construction*, the Federal Circuit appeared to require that the invention be "known to work for its intended purpose" before the one-year grace period could begin to run. 98 F.3d at 1322. In this case, however, petitioner knew his invention would work and that no experimentation was necessary. [Pet. App. 7, 10-11] Any such requirement was therefore met here.

CONCLUSION

Given the extensive sales activities and commercialization that occurred before the critical date, petitioner can prevail only if Section 102(b) is read to contain an absolute requirement that a physical embodiment of the invention be built and tested before the one-year grace period begins to run. Neither the language of the Patent Act nor its legislative history nor the policies it serves nor the precedents of this Court require or support that result.

The judgment of the court of appeals should be affirmed.

June 29, 1998.

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STATUTORY APPENDIX

The following sections appear in Title 35 of the U.S. Code:

§ 100. Definitions

When used in this title unless the context otherwise indicates –

(a) The term "invention" means invention or discovery.

. . . .

§ 101. Inventions patentable

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

§ 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in

this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

§ 103. Conditions for patentability; non-obvious subject matter

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

. . . .

(c) Patentability shall not be negatived by the manner in which the invention was made. Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

§ 112. Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

. . . .

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No. 97-1130

In The

Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ Of Certiorari
To The United States Court Of Appeals
For The Federal Circuit

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I. INTRODUCTION

This is not a case, as Respondent, Wells Electronics, Inc. ("Wells") and its supporting amici suggest, about an inventor trying to cheat the public or the patent system. If anything, the legal system is in danger of operating against the public interest, by postponing the time when the public will gain access to new products and mistreating inventors, including Petitioner Wayne K. Pfaff ("Mr. Pfaff"), through the adoption of a new rule that here would result in a forfeiture of his patent rights by virtue of *ex post facto* judicial legislation.

It is noteworthy that none of the briefs filed with the Court maintain that the appellate court's test of a "substantially complete" invention based on a "totality of the circumstances" is supportable, appropriate, or desirable. This is silent, but eloquent, testimony to the fact that the Federal Circuit has made a material and unwarranted departure from the law enacted by Congress. The Court has before it a wide range of options regarding the on-sale bar. Mr. Pfaff, however, asks the Court to reinstate the bright-line test that Congress enacted – that inventors have one year after their invention is "fully completed," or actually reduced to practice, in which to place their inventions on sale and to decide whether there is sufficient financial incentive to file a patent application. Opening Brief at 11-22; *accord* Brief of Amicus Curiae American Intellectual Property Law Association ("AIPLA Brief") at 3-8.

Fairly considered, Mr. Pfaff's interpretation of the Section 102(b) on-sale bar and its grace period honors established principles of statutory construction and the important policy considerations actually enunciated by Congress. Mr. Pfaff merely asks the Court to restore the operation of one statutory provision, impermissibly amended by the Federal Circuit, to its original intent and meaning.[1]

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[1] In Respondent's Brief on the Merits ("Respondent's Brief"), Wells for the first time raises the argument (understandably relegated to a footnote) that the Court's grant of certiorari should be dismissed as improvidently granted because Mr. Pfaff failed to raise the question

II. WELLS AND ITS AMICI UNFAIRLY STATE THE CASE BEFORE THE COURT.

At the outset, Wells attempts to divert the Court's attention by suggesting that Petitioner's "Question Presented" begs another question, *i.e.* when does "an inventive idea or process mature[ ] into an 'invention' under the statute." Respondent's Brief at 9. The correct answer to this "begged" question, however, is well-established and fully supports Mr. Pfaff. As this Court long ago confirmed, the answer is that, before an inventor's idea becomes an "invention," the inventor "must have proceeded so far as to have reduced his idea to practice and embodied it in some distinct form." *Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 552 (1868); *accord Clark Thread Co. v. Willimantic Linen Co.*, 140 U.S. 481, 489 (1891) ("conception of the mind is not an invention until represented in some physical form").[2]

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presented in his Petition in the court below. Wells' argument fails on three counts. First, the Federal Circuit found that the only reason that the district court did not apply the on sale bar to invalidate Mr. Pfaff's patent was its determination that his invention "was not reduced to practice at the time of the sale . . . . " PA 7-8. Thus, the issue presented to this Court did not exist until the Federal Circuit (reversing the district court) held that, although Mr. Pfaff's invention was only "substantially complete" prior to the critical date, it was nevertheless on sale within the meaning of Section 102(b). PA 7-8, 13. Second, the question presented for review formed the entire basis of the Federal Circuit's holding. Thus, it was clearly within this Court's discretion to grant the review. *See United States v. Williams*, 504 U.S. 36, 42-45 (1992). Finally, the issue before the Court was squarely presented in Mr. Pfaff's Petition for Writ of Certiorari. In its Opposition to the Petition, however, Wells' voiced no objection based on Mr. Pfaff's alleged failure to present the issue below. Not only is Wells' newly-raised objection without merit, Wells has waived it by failing to bring it to the Court's attention in its Opposition to Mr. Pfaff's Petition. *See City of Canton, Ohio v. Harris*, 489 U.S. 378, 383-385 (1989).

[2] *See also* Opening Brief at 13-15 & nn.10-15 and authorities cited therein. Elsewhere in its brief, Respondent erroneously suggests that some of this Court's prior decisions can be read to allow something other than a

Wells and its amici criticize Mr. Pfaff's construction of Section 102(b), erroneously arguing that it either interjects inconsistent meanings of the term "invention" into the patent laws or, alternatively, necessitates the term be read to require *actual* reduction to practice throughout the Patent Act (and, indeed, in other statutes as well). Such a construction, they argue, would result in a massive judicial rewriting of the patent laws.[3] This case presents no such far-reaching issue to the Court, nor does Mr. Pfaff's reading of Section 102(b) necessitate (or even suggest) any such wide-ranging

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physical construction to serve as an actual reduction to practice or completion of an invention. Respondent's Brief at 24-25. Fairly read, however, the cases cited by Wells stand for no such principle. There is no language in *Clark Thread* (and Wells points to none) that supports Wells' assertion that it stands for the proposition that drawings may satisfy the "physical form" requirement. Indeed, the Court's analysis and holding are directly to the contrary. *See Clark Thread*, 140 U.S. at 489-90. Wells also argues that *T.H. Symington Co. v. National Malleable Castings Co.*, 250 U.S. 383 (1919) "equated *Clark Thread's* 'physical form' requirement with 'models, drawings or some kindred evidence.' " Respondent's Brief at 34. Wells again misstates the gravamen of the Court's decision. In *T.H. Symington*, a model and/or drawings of the invention apparently had been made at about the time of the application. The Court nevertheless concluded that no *attempt* at reduction to practice (obviously referring to actual reduction to practice) was made until after the patent had issued. *Id.* at 386. *See also Corona Cord Tire Co. v. Dovan Chem. Corp.*, 276 U.S. 358, 383 (1928).

[3] Wells' accusation that Mr. Pfaff would have this Court rewrite the patent laws is simply another red herring. Moreover, it is curious given *Wells'* own rejection of long-established law in its newly-raised and erroneous contention that Mr. Pfaff's invention was "complete" before the April 19, 1981 critical date. Respondent's Brief at 9 n.3. Wells' suggestion that Mr. Pfaff's invention was "complete" even though *not one* single component of the test socket was in existence as of the critical date is contrary to applicable law and to the findings of the Federal Circuit that Mr. Pfaff's invention was not reduced to practice and was only substantially (*i.e.*, not fully) complete as of the critical date. PA 7, 13. The district court likewise found that Mr. Pfaff's invention was not reduced to practice prior to the critical date. PA 123.

interpretation of the term "invention." Rather, Mr. Pfaff has presented (and the Court has granted review on) a far narrower issue, *i.e.*, whether, *in the context of the Section 102(b) on-sale bar* (and only in that context), the term "invention" contemplates the physical existence of something that is fully completed – *i.e.*, actually reduced to practice – before the statutory one-year grace period may start to run. Mr. Pfaff maintains the answer to that question is "yes."

Hoping to cast Mr. Pfaff as a public policy villain, Wells (in its "Questions Presented" and its "Statement of the Case") also takes unwarranted liberties with the record below. By omitting pertinent facts, or reciting them out of context, Wells presents the nature of Mr. Pfaff's pre-critical date activities in a false light. To place these events in proper context, it was Texas Instruments that approached Mr. Pfaff in late 1980 (not *vice versa)* and asked him to develop a new semiconductor chip carrier test socket. PA 4, 121. Thereafter, in making a written offer to purchase new sockets on April 8, 1981, Texas Instruments (through its agent) *expressly conditioned* its purchase offer on Mr. Pfaff's future success in inventing and delivering a product that actually met Texas Instrument's engineering criteria (*i.e.*, sockets that worked for their intended purpose). JA 60; 86-88. Mr. Pfaff's first new test sockets were not manufactured until some months after the critical date and were not actually sold to Texas Instruments until July of 1981. PA 7, 123; JA 85-86, 107-118. Mr. Pfaff received no payment prior to actual delivery of the sockets. JA 77-78, 119. Moreover, consistent with then-controlling law,[4] Mr. Pfaff timely filed his application within one year from the date his invention was actually reduced to practice. Thus, Mr. Pfaff's conduct hardly evidences the actions of an inventor trying to cheat the system in order to obtain an eleven-day extension at the risk of ultimate forfeiture of his patent rights.[5]

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[4] *See* Opening Brief at 23-24 & n.27.

[5] In footnote 16 of Respondent's Brief, Wells states that Mr. Pfaff "has not sought review" of the Federal Circuit's holding that certain claims

III. MR. PFAFF'S PLAIN MEANING CONSTRUCTION IS WELL-FOUNDED.

On its face, Section 102(b) requires that an "invention," and nothing less, be "on sale" to trigger the start of the one-year grace period. To ascertain the plain meaning of Section 102(b)'s prohibition against placing an "invention" "on sale" more than one year prior to the critical date, Mr. Pfaff referred to Section 102(g), which defines "invention" in terms of its constituent elements – *i.e.*, conception and reduction to practice.[6] This statutory definition conforms to the long-established meaning of "invention" as a term of art. *See* Opening Brief at 10-11 & n.9; 13-16. On these bases, Mr. Pfaff properly concluded that the plain meaning of Section 102(b) is that a complete "invention" (*i.e.*, an invention reduced to practice, not something less) must actually exist before the one-year grace period to the on-sale bar can start to run. *See* Opening Brief at 10-22.

Wells attacks this plain meaning construction by arguing it would "cause one of two unacceptable results." Respondent's Brief at 6. First, Wells attempts to broaden the reach of Mr. Pfaff's argument by suggesting that, if he is correct, the term "invention" (wherever it appears, in the Patent Act or elsewhere) would *always* contemplate an invention *actually* reduced to practice. Mr. Pfaff clearly does not make such an argument, nor does his "plain meaning" construction of the Section 102(b) on-sale bar mandate the confusion or far-

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of the Pfaff patent were invalid as obvious under 35 U.S.C. § 103. As Wells acknowledges, however, Mr. Pfaff does challenge the appellate court's predicate holding, because Mr. Pfaff had not placed anything "on sale" within the meaning of Section 102(b) that could serve as a proper basis for the court's Section 103 holding. For this reason Mr. Pfaff properly requested that the decision below be reversed in its entirety. *See* Opening Brief at 8 n.6; 37.

[6] Opening Brief at 12-13. Section 102(g) does this in the context of defining a related statutory bar – prior invention by another who has not abandoned, suppressed, or concealed the invention.

reaching effects that Wells (and its amici) predict would follow from it. Section 102(g) confirms that the constituent elements of an "invention" are its "conception" and its "reduction to practice." Opening Brief at 12-13. Reduction to practice – itself a term of art – can take one of two forms, either *actual* or *constructive*. Actual reduction to practice always requires that an invention be physically made.[7] Constructive reduction to practice occurs only upon the filing of a patent application.[8]

Where Wells and its amici go astray is in failing to recognize that context will define the appropriate form of reduction to practice. When, as here, it is the inventor's own pre-application activity that is in question, constructive reduction to practice (which occurs only when the application is filed) simply is not implicated. In this situation, only actual reduction to practice is germane to determining the start of the on-sale grace period.[9]

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[7] *See Corona Cord*, 276 U.S. at 383; *see also* Opening Brief at 14. Actual reduction to practice also requires that the invention work for its intended purpose. *See Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1578 (Fed. Cir. 1996); *Gordon v. Hubbard*, 347 F.2d 1001, 1006 (C.C.P.A. 1965).

[8] *See Dolbear v. American Bell Tel. Co.* [*The Telephone Cases*], 126 U.S. 1, 535-36 (1888) (recognizing invention not actually reduced to practice at time of application, but sufficiently described in patent specification, constituted a patentable invention); *In re Katz*, 687 F.2d 450, 454 (C.C.P.A. 1982) ("[u]nlike the filing of a patent application, the publication of an article is not deemed a constructive reduction to practice"); *Gregg v. Coakwell*, 175 F.2d 575, 580 (C.C.P.A. 1949) (written disclosure apart from patent application does not "constitute a constructive reduction to practice").

[9] By contrast, 35 U.S.C. § 103(a) which measures the obviousness or non-obviousness of invention "at the time the invention was made," provides an example of an analysis that may implicate either form of reduction to practice, depending on whether or not an actual reduction to practice occurred prior to the filing of a patent application. The date of invention (*i.e.*, the date when the "invention was made") for the purposes of Section 103(a) is determined in the same way as it is under Sections 102(a), (e), and (g). *See* 37 C.F.R. § 1.131(a)(1). Moreover, despite the

Second, Wells and its amici attack Mr. Pfaff's plain meaning construction of the Section 102(b) on-sale bar by arguing erroneously that requiring that an invention be fully complete – *i.e.*, reduced to practice – before it can be placed "on sale" will result in statutory inconsistencies. Wells, for example, argues that Mr. Pfaff's "definition of 'invention' . . . cannot be squared" with Section 102(b)'s provision barring an inventor's right to a patent when "the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of application . . . . "[10] The language of the statute itself, however, dictates to the contrary.

As aptly noted in one amicus brief, Section 102(b) "plainly has two concepts in mind in referring to the 'invention.' " AIPLA Brief at 2. The first deals with two specific types of *documents* (patents and printed publications) that exist more than one year before the inventor's patent application is filed. It is the information contained in such documents that is studied and compared against the claims of the inventor's patent.[11] The existence of a physical object is unnecessary (and indeed irrelevant) to this exercise.[12] In contrast, the second

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protestations of Wells and its amici to the contrary, the analysis of obviousness under the Section 102(b)/103 does not dictate against Mr. Pfaff's interpretation of Section 102(b). *See* Opening Brief at 25-26 & n.32; *see also Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1562-63 (Fed. Cir. 1987) ("If a device was in public use or on sale before the critical date, then that device becomes a [prior art] reference under section 102 against the claimed invention"); Janice M. Mueller, *Conception, Testing, Reduction to Practice: When Is It Really On Sale?*, 80 J. Pat. & Trademark Off. Soc'y 305, 318-19 (1998).

[10] *See* Respondent's Brief at 19-20; 35 U.S.C. § 102(b).

[11] The same is true for prior art under Section 102(e), which codified *Alexander Milburn Co. v. Davis-Bournonville Co.*, 270 U.S. 390 (1926). Wells relies on *Alexander Milburn*, but overlooks its key statements. In fact, the Court stated that a "description that would bar a patent if printed in a periodical or in an issued patent is equally effective in an application *so far as reduction to practice goes*." *Id.* at 402 (emphasis added).

[12] This same analysis applies to the parallel "patented or described in a printed publication" provision found in Section 102(a). *See infra* note 14.

concept encompasses the "public use" and "on sale" bars and involves a very different comparison, between the claims and the *physical object* actually in public use or on sale. A public use clearly cannot occur unless the "invention" is actually reduced to practice. *See* Brief of the United States as Amicus Curiae Supporting Respondent ("U.S. Brief") at 17-18; *see also* AIPLA Brief at 3-5. Similarly, to be "on sale" an "invention" must exist and be actually reduced to practice. Opening Brief at 11-16. Reading the statute fairly, in its proper context, eliminates any likelihood of inconsistent constructions of the same term.[13]

Nor do the various other statutory uses of the term "invention" in the Patent Act cited by Wells present any real possibility of inconsistent construction. It is well established that reduction to practice is an essential element in a Section 102(a) or 102(e) analysis. *See* 37 C.F.R. § 1.131.[14] Wells argues that the "known by others" trigger in Section 102(a) does not require knowledge of an invention reduced to practice. *See*

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[13] Significantly, contrary approaches suggested by Respondent and several amici would create an entire new body of "secret" prior art. One example is an offer to sell a then-incomplete invention, satisfied only after years of further effort. Additionally, all manner of writings and other materials that do not qualify as patents or printed publications would, nevertheless, trigger the grace period to the on-sale bar, against both the seller/offeror and third-party inventors, so long as such materials (whether or not available to the public, or even the purchaser) exist alongside an offer to buy or sell.

[14] Volume 37, Section 1.131(a)(1) of the Code of Federal Regulations, *inter alia*, provides that an inventor may make a showing of certain facts to overcome a patent or printed publication which is cited as a reference under 35 U.S.C. §§ 102(a) and (e) or under 35 U.S.C. § 103. This showing "must include facts showing a *completion of the invention*. . . ." 37 C.F.R. § 1.131(a)(1) (emphasis added). Section 1.131(b) provides that this showing of facts can either "establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with diligence from prior to said date to a subsequent reduction to practice or to the filing of the application." 37 C.F.R. § 1.131(b).

Respondent's Brief at 18 (citing *In re Borst*, 345 F.2d 851 (C.C.P.A. 1965), *cert. denied*, 382 U.S. 973 (1966)). While this argument is not particularly germane here (as there is no parallel "known" language in Section 102(b)), under this Court's precedent, it is also incorrect. This Court long ago recognized that the invalidating prior knowledge contemplated by the patent laws was knowledge of a *complete* invention. *Coffin v. Ogden*, 85 U.S. (18 Wall.) 120, 124-25 (1873) (applying Patent Act of 1836; "invention or discovery relied upon as a defence [claiming prior knowledge], must have been *complete*, and capable of producing the result sought to be accomplished") (emphasis added); *cf. Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 20-21 (1829).[15]

Wells also argues that Section 102(c), which bars an inventor from obtaining a patent if "he has abandoned the invention," mitigates against Mr. Pfaff's construction of Section 102(b).[16] Wells, however, points to no case so construing Section 102(c) and buries the one salient case it cites (a case that supports Mr. Pfaff) in a footnote.[17] Wells questions that

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[15] *See also Stearns v. Tinker & Rasor Corp.*, 220 F.2d 49, 56 (9th Cir.), *cert. denied*, 350 U.S. 830 (1955); AIPLA Brief at 3-5. Shortly after the adoption of the Patent Act of 1952, the Court of Customs and Patent Appeals confirmed that prior knowledge under Section 102(a) contemplated knowledge of an invention reduced to practice. *See In re Schlitter*, 234 F.2d 882, 884-885 (C.C.P.A. 1956). Its change of heart some nine years later, in *In re Borst*, fails to accurately reflect precedents of this Court and the regional appellate courts and, quite simply, reaches the wrong conclusion.

[16] Here Wells offers a shallow hypothetical that ignores the separate consequences of the "printed publication" restriction found in Section 102(b). *See* Respondent's Brief at 21. Wells also cites *Gayler v. Wilder*, 51 U.S. (10 How.) 477 (1850) as support for its 102(c) argument. The analysis in *Gayler*, however, did not focus on reduction to practice or the need for testing. Indeed, it appears the prior "invention" the Court deemed abandoned was in fact completed and used in private for some years by the prior inventor. *Id.* at 495-96.

[17] *See* Respondent's Brief at 22, n.9 (citing *Correge v. Murphy* 705 F.2d 1326, 1328 (Fed. Cir. 1983) ("without an actual reduction to practice

case for failure to discuss what it calls the "dedication to the public" doctrine, but ignores this Court's holding in *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, ___, 117 S. Ct. 1040, 1047-48 (1997). In *Warner-Jenkinson*, the Court held that the "doctrine of equivalents" survived the 1952 revision of the patent laws – a clear confirmation that material disclosed but not claimed in a patent specification is not automatically or necessarily dedicated to the public.[18]

Wells and one amicus also refer to various other statutory provisions (all but one found elsewhere than the Patent Act and all adopted after the 1952 Act itself) defining when an invention is deemed "made" for the purposes of determining the government's rights in inventions developed in whole or in part with federal funds. *See* Respondent's Brief at 33; U.S. Brief at 15-17. The very existence of these statutes, however, supports Mr. Pfaff's construction. These statutes evidence Congress' understanding that it needed to define when an invention was "made" because it was using that term other than in its commonly understood meaning (and, thus, differently than used in Section 102(g)).[19] Moreover, these statutes merely evidence Congress' intent to maintain control over an invention when either element of "invention" – conception or reduction to practice – is effected with federal funding. These

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there is no invention in existence which can be abandoned") (internal quotation marks omitted)).

[18] The Federal Circuit has since accepted that such material may form the basis for a finding of infringement under the doctrine of equivalents. *See YBM Magnex, Inc. v. Int'l Trade Comm'n*, ___ F.3d ___; 46 U.S.P.Q.2d 1843, 1845-46 (Fed. Cir. 1998). In *YBM*, the Federal Circuit expressly noted that its prior ruling in *Maxwell v. Baker, Inc.*, 86 F.3d 1098 (Fed. Cir. 1996), a case relied upon by Wells, "accords with the [Supreme] Court's precedent only when its decision is understood and applied *on its facts*." *Id.* at 1846 (emphasis added). Thus, the *YBM* court found, *Maxwell* cannot be read as stating "a general rule of law." *Id.*

[19] In fact, the applicability of each of these definitional statutes is expressly limited to the statutory section or chapter in which it appears. *See* 35 U.S.C. § 201; 42 U.S.C. § 2457(j); 42 U.S.C. § 5908(m); 15 U.S.C. § 3703.

provisions do not constitute an after-the-fact equation of the term "invention" (as used in the Patent Act of 1952) with "conception."[20]

Finally, Wells' argument that Mr. Pfaff's interpretation will place long-settled rules of priority in disarray misses the mark. The clear requirement imposed by Section 102(g) is that no inventor can claim priority of invention unless and until the invention is reduced to practice, either actually or constructively. Without reduction to practice, there simply is *no invention* on which to claim priority.[21] Section 102(g) does not (as Wells argues) work against Mr. Pfaff's interpretation of the term "invention," but, rather, supports it.

IV. MR. PFAFF'S CONSTRUCTION IS SUPPORTED BY CASE LAW AND LEGISLATIVE HISTORY.

Mr. Pfaff demonstrated in his opening brief that the Federal Circuit also ignored the substantial body of judicial precedent under the 1952 Patent Act recognizing actual reduction to practice as a prerequisite to the commencement of the on-sale grace period. *See* Opening Brief at 23-25 & nn.27-30. In response, Wells contends that the pre-Federal Circuit law was "inconsistent for decades. . . ." Respondent's Brief at 38. The spectre of "inconsistency" raised by Wells, however, is much ado about nothing. There is no question that

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[20] In rejecting "reduction to practice" as the proper measure of when an invention exists for the purposes of the on-sale bar, Wells, *inter alia*, proposes that "invention" occurs when an invention "can be disclosed" in the sense of 35 U.S.C. § 112's enabling disclosure requirement. Respondent's Brief at 10-11. This sort of hindsight "ready for patenting" test, however, does not fulfill Congress' intent to provide *inventors* a clear and discernible rule by which to measure the time which they have to file a patent application, so as to avoid forfeiture of their rights once they have made an "invention." *See* Thomas K. Landry, *Certainty and Discretion in Patent Law: The On Sale Bar, the Doctrine of Equivalents and Judicial Power in the Federal Circuit*, 67 S. Cal. L. Rev. 1151, 1185-86 (1994).

[21] *See Del Mar Eng'g Labs. v. United States*, 524 F.2d 1178, 1184 (Ct. Cl. 1975); *International Glass Co. v. United States*, 408 F.2d 395, 402 (Ct. Cl. 1969).

prior to the 1952 Act, going back to the early 1900s, courts uniformly required reduction to practice as a prerequisite to finding an invention that could be placed "on sale," although there was some disagreement over what a "sale" required *in addition to reduction to practice*. Thus, while some early courts also required sales of product "on hand" (*i.e.*, in stock and ready for delivery), others found offers to sell an invention reduced to practice sufficient.[22] Although later cases began to reject the "on hand" requirement as too narrow or to distinguish the "on hand" cases on their facts, the regional circuit courts consistently continued to treat reduction to practice as a prerequisite to the invocation of the on-sale bar. *See* Opening Brief at 23-24 & nn.27-28.[23]

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[22] *Compare McCreery Eng'g. Co. v. Massachusetts Fan Co.*, 195 F. 498, 502-03 (1st Cir. 1912) and *Burke Elec. Co. v. Independent Pneumatic Tool Co.*, 234 F. 93 (2d Cir. 1916), *with Wende v. Horine*, 225 F. 501, 505 (7th Cir. 1915). *See also Landry, supra* note 20, at 1182.

[23] Well misreads both *Jamesbury Corp. v. Worcester Valve Co.* 443 F.2d 205 (1st Cir. 1971) and *Red Cross Mfg. Corp. v. Toro Sales Co.*, 525 F.2d 1135 (7th Cir. 1975). *Jamesbury*, a diversity case applying Massachusetts law, merely held that an ex-employee had not "made" his invention while employed. 443 F.2d at 213. In *Red Cross Mfg. Corp.*, the Seventh Circuit reversed a summary judgment of invalidity based on the on-sale bar. There was no controversy that the prior art device in question had been actually reduced to practice prior to the critical date. The district court granted summary judgment solely on the basis of Section 102(b). The appellate court, however, found disputed issues as to whether that device was sufficiently similar to the patent claims, *i.e.* whether what was sold was an "essentially completed" invention. The Seventh Circuit thus used the phrase "essentially completed" to explain how to compare the patent claims against a prior art prototype. *Id.* at 1141-1143. Additionally, both of these cases come from circuits that thereafter confirmed actual reduction to practice as a condition precedent to the on-sale grace period, as did other circuits. *See* Opening Brief at 23 n.27.

Wells likewise seeks to distort the legislative history of the Patent Act of 1939.[24] First, it dismisses the House and Senate Reports as the work of "legislative staff." Wells then complains that Mr. Pfaff improperly "assumes" that "fully completed," as used in the House and Senate Reports, means "actually reduced to practice." *See* Respondent's Brief at 31. Mr. Pfaff, however, "assumed" nothing, nor was any "assumption" necessary in view of this Court's prior pronouncements and other authorities. Opening Brief at 14-15, 19 & nn.12, 14, 15. Moreover, the published regulations of the United States Patent & Trademark Office, to this day, define a "complete" invention in terms of a reduction to practice, actual or constructive. 37 C.F.R. § 1.131(a)(1), (b).

Wells also parses two sentences of the legislative history and argues that the "fully completed" language of the first sentence cannot refer to an actual reduction to practice, because, otherwise, a printed publication could not be a statutory bar in the absence of actual reduction to practice. This argument ignores the context of both time and language. The first sentence recognizes that after an invention is "fully completed," it may be "made known to the public" for the grace period. This sentence makes sense once Congress is credited with the knowledge that extant case law required actual reduction to practice before either public use or on-sale activity could commence, and that actual reduction to practice was not a predicate to a "patented" or "printed publication" prior art bar. The second sentence then recognizes that certain public activities may take place for the length of the grace period, two of which ("sold" and "widely used"), as phrased, contemplate an invention that actually exists in physical form. It also correctly explains that an invention may be "described in print" for a period of up to two years and then an application filed. That statement is not coupled (by accepted meaning or otherwise) to any other action (such as completion) and in

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[24] Ch. 440, § 1, 53 Stat. 1212 (1939) (repealed); H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939); S. Rep. No. 876, 76th Cong., 1st Sess. 1 (1939).

no way ties actual reduction to practice to the use of a printed publication as a statutory bar.

V. THE POLICY BASES ACTUALLY UNDERLYING THE ON-SALE BAR ARE SERVED BY THE REQUIREMENT THAT AN INVENTION BE REDUCED TO PRACTICE BEFORE THE ONE-YEAR GRACE PERIOD CAN BEGIN TO RUN.

Mr. Pfaff has demonstrated that, in adopting the grace period to the Section 102(b) on-sale bar and its triggering mechanism of completion (*i.e.*, actual reduction to practice), Congress effected a balance between various policies underlying the patent laws. Opening Brief at 28-30. One clearly articulated goal of Congress was to provide *inventors* with a universally understood, easily applied, and predictable bright-line test by which to measure the time which they have to file patent applications. *Andrews v. Hovey*, 123 U.S. 267, 274 (1887); *see also* Opening Brief at 29. The paramount policies actually expressed by Congress and recognized by this Court are (1) to give inventors an opportunity to determine the saleability of their inventions and to decide whether or not to file patent applications; (2) to give inventors this opportunity for a limited time, but one that would be certain; and (3) to limit the period of potential detrimental reliance by the public. *See* Opening Brief at 28-35.

One obvious benefit of the "reduction to practice" requirement adopted by Congress is that it allows inventors to measure and use the entire one-year grace period without substantial risk of inadvertent forfeiture of valuable property rights. Requiring the bright line of "reduction to practice" before the on-sale grace period can begin to run is thus in keeping with the long-standing tenets of statutory construction and policy that forfeitures are not favored and that laws creating them are strictly construed. *See, e.g. Farmers &*

Mechanics National Bank v. Dearing, 91 U.S. 29, 35 (1875); *Knowlton v. Moore*, 178 U.S. 41, 77 (1900).[25]

Another consideration actually reflected in the legislative history, but virtually ignored by Wells and its amici, is that inventors should be afforded a sufficient period of time (defined as one year) in which to ascertain whether their inventions show sufficient commercial success to warrant the expense of filing a patent application and lifting the veil of secrecy from the inventions. Opening Brief at 28-30. The essence of this policy is to allow inventors the opportunity to earn actual revenue from sales for up to one year after they have an "invention," so that they can make an informed decision about whether or not to file a patent application. Section 102(b) defines the triggering activity for the grace period as placing an invention "on sale," not "marketing" or "promoting" an idea or any other form of "commercialization." Fulfilling the purpose of the statute necessitates that an inventor have a fair opportunity to see how successfully a product actually sells during the one-year grace period.[26]

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[25] The arguments that actual reduction to practice is not a bright-line test are makeweight and ignore the practical implementation of that test. An inventor can easily ascertain when a working embodiment was first physically made. For purposes of a predictable, bright-line test, the actual creation of a machine, composition of matter, or manufacture does provide an easily identified event that inventors can use as a bright line. *See* AIPLA Brief at 8-9; Mueller, *supra* note 9, at 319-20.

[26] The legislative history of the Patent Act of 1939 confirms that Congress intended the policy of limiting detrimental reliance to be subordinate to that of allowing inventors the full benefit of the statutory grace period. H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939) (inventor or others may describe, use, or sell invention during the grace period "even when the public may have come to believe that the invention is open to anyone"). *See* Landry, *supra* note 20, at 1182-83 (discussing legislative history of the 1939 Act).

In a thoughtful review of the policy considerations that have been connected to the on-sale bar, Circuit Judge Easterbrook (sitting in the district court by designation) observed the following:

> One more purpose of patent law requires consideration: *the dominant purpose of them all,* the purpose of *encouraging innovation by rewarding it.* Advances in technology are not born market-ready. While ideas are being translated from the drawing board to production, manufacturers will consult with their customers in order to find out which lines of development will be most useful. They will make samples and prototypes, many such endeavors can be characterized as offers or sales . . . . But reading "on sale" to cover these exploratory discussions or transactions would either reduce the incentive to invent (by increasing the risk that persons who make valuable discoveries will not obtain valid patents) or discourage inventors from engaging in the very discussions with customers that may increase the commercial and hence social value of their work. Neither outcome is desirable.

In re Mahukar Double Lumen Patent Litigation, 831 F. Supp. 1354, 1370 (N.D. Ill. 1993), *aff'd,* 71 F.3d 1573 (Fed. Cir. 1993) (emphasis added).[27] *See also* Opening Brief at 28-29.

The Federal Circuit has taken it upon itself to divine new considerations and rebalance the policy scales set by Congress. Opening Brief at 30-35. Not only has the appellate court ignored the plain meaning and purpose of the statute and decades of case law, it has elevated its own view of public policy over that of Congress. In seeking affirmance of the decision below, Wells and its amici necessarily advocate the perpetuation of this error.

Against the clearly stated Congressional policy of certainty and predictability, Wells and several of the amici offer arguments based on considerations not, in fact, evident in the

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[27] Respondent cites a preceding portion of Judge Easterbrook's opinion. *See* Respondent's Brief at 26 n.10 (quoting, *Mahurkar,* 831 F. Supp. at 1369).

statute, its legislative history, or the pronouncements of this Court.[28] Echoing recent Federal Circuit jurisprudence, they improperly elevate the act of "commercialization" to the status of a statutory triggering event. One amicus even suggests that, if an offer to sell embodies something later made and sought to be patented, that offer, with nothing more, should start the one-year grace period. U.S. Brief at 21. The adoption of such a standard, however, would repudiate Congressional understanding that, after its "completion," an "invention" may be "sold" during the entire length of the statutory grace period. Opening Brief at 20-21. It also would have a chilling effect on inventors and adversely impact the public by postponing the time when new products become available to the public.[29]

Wells and its amici also suggest hypothetical loopholes through which, they contend, a clever inventor (or patent attorney) might slip and, thus, secure additional time (beyond the grace period) to "commercialize" an invention before actually reducing it to practice. Yet, despite the decades during which the reduction to practice rule was applied by the courts, neither Wells nor any amici has identified even a

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[28] As noted in Mr. Pfaff's Opening Brief, the four "policies" the Federal Circuit had identified as underlying the on-sale bar (predictably invoked by Wells and its amici) have enjoyed an over-elevated, and somewhat unbalanced, stature in the appellate court's on-sale jurisprudence. Opening Brief at 30 n.35; *see also Landry, supra* note 20, at 1163-1175 (discussing evolution of the four policies and critiquing their use in the "deconstruction" of the on-sale bar).

[29] If "reduction to practice" is required to trigger the grace period to the on-sale bar, an inventor is less likely to be inhibited in engaging in the preparatory activities necessary to bringing a new product to market. Thus, by the time the invention is complete, the framework for bringing his invention to the public in the form of a finished product will already be underway, if not in place. Absent the "reduction to practice" requirement, however, the prudent inventor, fearful of forfeiting patent rights, is more likely to delay such activities until after development is complete, thus inevitably delaying the time when his product will reach the market (and the public).

single case in which an inventor had deliberately postponed *reducing an invention to practice* (and, thus, delivery of his product) to extend the period of exclusivity. In fact, the various hypotheticals posited by Wells and the amici are not situations likely to be encountered in the real world.[30] Both real world business considerations and the requirements of Section 102(c) and 102(g) offer sufficient countervailing pressures and incentives toward diligent reduction to practice and timely applications for patent.[31]

The selective omissions exercised by Wells and several of the amici in reciting authorities allegedly reflecting applicable policy considerations are also noteworthy. For example, while the Federal Circuit has frequently condemned "commercialization" outside the grace period, it has not done so in any consistent fashion. Inventors are allowed to commercialize their inventions by assigning (actually selling) them to others, without triggering the on-sale bar. *See Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1267 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1030 (1987). Even a commercially motivated "sham sale" has been found not to implicate the on-sale bar. *Mahurkar*, 831 F. Supp. at 1370.[32] There simply is no rational justification under the language of the statute for determining that the on-sale bar is violated, on the

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[30] *See* AIPLA Brief at 9-11; Brief of Amicus Curiae Federal Circuit Bar Association in Support of Petitioner at 6-8; *see also* Mueller, *supra* note 9, at 319-20; Landry, *supra* note 20, at 1174, 1179-80.

[31] *See* Mueller, *supra* note 9, at 319; Landry, *supra* note 20, at 1174, 1179-80. Mr. Pfaff does not concede (despite the Government's statement to the contrary, U.S. Brief at 20) that his construction gives rise to any palpable risk that inventors will be able to extend their period of exclusivity in violation of the letter or intent of the patent laws.

[32] In *Mahurkar*, Judge Easterbrook (later affirmed by the Federal Circuit) found that a sham sale of two prototypes (which the court found not market ready, but nevertheless to be a reduction to practice of the invention) did not invoke the bar. The "sale" was made by the licensee of the inventor, for the purpose of holding on to his future rights to make and market the invention under a license agreement (which required sales by a certain date). 831 F. Supp. at 1366-68, 1370.

one hand, by an individual who obtains a conditional purchase order (but no money), while, on the other hand, determining that the bar is not violated by an assignment of the invention itself or a commercially motivated sham sale.

Similarly, it cannot be the case that Congress intended the start of the on-sale grace period to depend on whether an inventor was an optimist or a pessimist.[33] An inventor who contracts to sell an invention, but is unable to complete and deliver that invention in a timely fashion, may be liable for breach of contract. That, however, is the extent to which the overly optimistic inventor should be punished. Otherwise, the likely result is to limit early dissemination of patentable inventions to the public. Inventors will be fearful of entering into distribution or sales agreements until development reaches the stage that a commercially viable invention exists. This is inimical to encouraging early introduction of new inventions and hardly an effective way to promote the progress of science and useful arts.[34] Yet it is exactly the result sought by at least some of the amici and, perhaps, Wells.

VI. CONCLUSION

As fully demonstrated in Petitioner's Opening Brief, the intent and purpose of the statutory grace period to the on-sale bar have remained virtually unchanged since its adoption in

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[33] As one commentator has recognized, subjective tests using inventor confidence as a factor are hindsight-oriented and unreliable. During development, inventors are frequently optimistic about their ability to succeed, otherwise they would have little incentive to continue trying to bring their ideas to fruition (*i.e.*, to reduce them to practice). Landry, *supra* note 20, at 1185 & n.180. Nevertheless, as this commentator suggests, under the Federal Circuit's "totality of the circumstances" approach to the on-sale bar, "[i]nventors are well-advised, where these proposals hold sway, to appear pathetically insecure about their prospects for success until the day of reduction to practice." *Id.*

[34] *See* the discussion *supra* at 16; *see also* Landry, *supra* note 20, at 1172 (also discussing how the *UMC Electronics* totality of the circumstances approach may force premature entry into the patent system).

1839. Congress enacted a universally understood, easily applied, and predictable bright line test so inventors could avail themselves of the entire grace period granted by Congress, without serious risk of forfeiting potentially valuable rights. The Federal Circuit, with its rejection of the reduction to practice requirement and its adoption of a "substantially complete" test based on the "totality of the circumstances," has abandoned congressionally mandated certainty in favor of unpredictable judicial discretion. This choice is unsupported by the language of the statute, its legislative history, prior judicial interpretation that (at the least) consistently required reduction to practice, and any sound application of the rules of statutory construction. For the foregoing reasons and those set forth in Petitioner's Opening Brief, the Federal Circuit's decision should be reversed in its entirety.

Respectfully submitted,

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BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING RESPONDENT

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QUESTION PRESENTED

Whether a patent is valid if the invention disclosed in the patent had been offered for sale for commercial purposes, but had not been "reduced to practice," more than one year before the date of the patent application.

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INTEREST OF THE UNITED STATES

This case presents a fundamental question respecting the patentability of inventions. That question is important to the United States because the Constitution entrusts Congress with the power to determine the availability and scope of patent rights. See U.S. Const. Art. I, § 8, Cl. 8. Congress has charged the Patent and Trademark Office (PTO) with responsibility to examine all patent applications to ensure that they satisfy the statutory conditions for patentability. See 35 U.S.C. 131. More generally, the United States has an interest in preserving the balance that Congress has struck among the competing policy interests that underlie the patent system. Those interests include creating incentives for innovation, disseminating useful knowledge, and preserving competition.

STATEMENT

Petitioner Wayne K. Pfaff sued respondent Wells Electronics, Inc., for infringement of his patent. The United States District Court for the Northern District of Texas adopted the report of a special master and ruled, among other things, that the patent contained valid claims and that Wells had infringed them. Pet. App. 21a-22a. The court of appeals reversed. *Id.* at 1a-20a. The court of appeals concluded, in relevant part, that petitioner's patent was invalid under Section 102(b) of the Patent Act, 35 U.S.C. 102(b), because petitioner did not apply for his patent until more than one year after he had placed his invention "on sale." Pet. App. 2a.

1. The Patent Clause of the Constitution empowers Congress "[t]o promote the Progress of Science and useful Arts by securing *for limited Times* to * * * Inventors the exclusive Right to their * * * Discoveries." U.S. Const. Art. 1, § 8, Cl. 8 (emphasis added). Congress has implemented that Patent Clause through statutory enactments, commonly known as the Patent Acts, that have set out the conditions for obtaining a patent. See, *e.g.*, Patent Act of 1790, ch. 7, 1 Stat. 109; Patent Act of 1793, ch. 11, 1 Stat. 318; Patent Act of 1836, ch. 357, 5 Stat. 117; Patent Act of 1839, ch. 88, 5 Stat. 353; Patent Act of 1870, ch. 230, 16 Stat. 198; Patent Act of 1939, ch. 451, 53 Stat. 1212; Patent Act of 1952, ch. 950, 66 Stat. 792.

The Patent Act of 1952, as amended, provides the currently controlling law governing the issuance of patents. See 35 U.S.C. 100 *et seq.* Sections 101 through 103 set out the basic requirements to qualify for a patent. As this Court has explained, those Sections indicate that "patentability is dependent upon three explicit conditions: novelty and utility as

articulated in § 101 and § 102, and non-obviousness * * *, as set out in § 103." See *Graham* v. *John Deere Co.*, 383 U.S. 1, 12 (1966); *United States* v. *Adams*, 383 U.S. 39, 48 (1966). See generally *Bonito Boats, Inc.* v. *Thunder Craft Boats, Inc.*, 489 U.S. 141, 146-151 (1989).

Section 101 provides the basic test for patentability. It states that an inventor may obtain a patent for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. 101. Section 102 amplifies on the limitations that arise from the novelty requirement. Section 102(a) provides, for example, that an applicant is not entitled to a patent if "the invention was known or used by others in this country * * * before the invention thereof by the applicant for patent." 35 U.S.C. 102(a). Section 102(b) further states that an applicant is not entitled to a patent if "the invention was * * * in public use or on sale in this country, more than one year prior to the date of the application for patent." 35 U.S.C. 102(b).

Section 103 of the Patent Act articulates the additional requirement, added explicitly in 1952, that the subject matter of the invention must be "non-obvious." 35 U.S.C. 103. Section 103 specifically states that a patent may not be obtained, even though the invention is not identically disclosed or described under Section 102, if the differences between the subject matter and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. 103. In other words, "Patentability is to depend, in addition to novelty and utility, upon the 'non-obvious' nature of the 'subject matter sought to be patented' to a person having ordi-

nary skill in the pertinent art." *Graham*, 383 U.S. at 14.

The Patent Act also addresses the question of how to determine who is entitled to a patent among competing inventors who each claim to have created the same invention. Section 102(g) states the general rule: "In determining the priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other." 35 U.S.C. 102(g). See 3 D. Chisum, *Chisum on Patents* § 10.01, at 10-9 (1998).

2. Petitioner, an inventor who owns a company called Plastronics, Inc., developed and patented a device for mounting and removing semiconductor components. Petitioner began development of his device in November 1980, in response to a request from Texas Instruments Corporation (TI) that he create a housing, or socket, for mounting and removing "leadless chip carriers." Leadless chip carriers are used in computer applications to interconnect semiconductor components, or "chips," in a way that provides a maximum number of interconnections in a minimum amount of space on the circuit board. See Pet. App. 2a-4a, 26a-29a, 177a-179a, 199a-200a. TI sought a socket that would provide a means for rapidly mounting and removing leadless chip carriers from the circuit board for testing and other purposes. See *id.* at 4a, 180a-181a, 200a-201a.

Petitioner met with TI and sketched his concept of a socket for leadless chip carriers. Pet. App. 4a, 121a. He later provided TI with detailed engineering drawings, which he also sent to a company called Weis-Aug, which could provide customized tooling and pro-

duction of such devices. *Id.* at 4a, 121a-122a. On April 8, 1981, TI's representative, the Delta V Company, sent Plastronics a written purchase order, confirming TI's earlier oral order, for 30,100 sockets. *Ibid.*; J.A. 60. Petitioner subcontracted the production to Weis-Aug, which manufactured the sockets and supplied them to petitioner in July 1981. Pet. App. 4a, 122a. Petitioner subjected some of the sockets to a mechanical stress test, concluded that they performed satisfactorily, and shipped them to TI, which accepted the shipment. *Id.* at 4a, 122a-123a.

3. Petitioner applied for a patent on the socket on April 19, 1982, more than one year after he received TI's purchase order and subcontracted with Weis-Aug for manufacture of the sockets. Pet. App. 4a. The PTO examined petitioner's application and awarded petitioner a patent. See *Id.* at 172a-198a. He thereafter discovered that Wells had produced and marketed a similar device, and he brought his first suit for patent infringement against Wells. A district court ruled that petitioner's patent was valid, but held that Wells' device did not infringe the patent. *Id.* at 198a-227a. The court of appeals affirmed the finding of non-infringement and, in accordance with its practice at that time, vacated the district court's finding of patent validity as moot. *Id.* at 229a (Table). See *Cardinal Chem. Co.* v. *Morton Int'l, Inc.*, 508 U.S. 83 (1993) (holding that the routine use of that practice is an abuse of discretion).

Petitioner brought this second infringement action after he later learned that Wells was selling a modified version of its device. J.A. 5, 44. The district court ruled on a motion for summary judgment that the device did not infringe petitioner's patent, but the court of appeals reversed and remanded for further proceedings, holding that the court had improperly

resolved a disputed issue of material fact. Pet. App. 155a-169a. On remand, the district court referred the case to a master for a non-jury trial. The master prepared an extensive report recommending that the district court find, in relevant part, that petitioner's patent is valid and that Wells had infringed certain of the patent claims. *Id.* at 23a-154a. The district court adopted the master's report and recommended findings of fact and conclusions of law, *id.* at 21a-22a, including his recommendation that the invention was not "on sale" more than one year before petitioner applied for his patent, 35 U.S.C. 102(b), because "[t]here was no reduction to practice of the invention prior to the critical date," Pet. App. 123a; see *id.* at 123a-126a.

The court of appeals reversed. Pet. App. 1a-20a. That court rejected the district court's holding that petitioner's invention was not "on sale" within the meaning of Section 102(b). Noting that the sale admittedly was "purely commercial, with no experimentation or additional development involved," *id.* at 7a, the court of appeals ruled that "reduction to practice is not necessarily a prerequisite to application of the on-sale bar," *id.* at 8a. It concluded that "the appropriate question is whether the invention was substantially complete at the time of the sale such that there was 'reason to expect that it would work for its intended purpose upon completion.'" *Id.* at 9a. The court found that test satisfied here because the "substantially completed socket had entered the production phase prior to the critical date and a specific purchase order was being filled." *Id.* at 10a; see also *id.* at 13a. The court of appeals also rejected petitioner's arguments that Wells had infringed certain claims in the patent that reflected post-sale changes to the invention. *Id.* at 13a-20a. The court concluded that those claims "would have been obvious in light of

the prior art and the socket that was on sale." *Id.* at 20a.

SUMMARY OF ARGUMENT

Section 102(b) of the Patent Act states that an inventor who places an invention "on sale" must apply for a patent within one year or lose the right to receive a patent. 35 U.S.C. 102(b). The Federal Circuit correctly ruled that Section 102(b)'s on-sale bar applies without regard to whether the inventor had actually reduced his invention to practice—viz., had constructed the invention and demonstrated that it would work for its intended purpose—at the time of the offer of a commercial sale.

The express terms of Section 102(b) indicate that the on-sale bar applies if the inventor makes a commercial offer to sell an invention and then applies for a patent that claims the same invention more than one year after placing it on sale. Section 102(b) makes no reference whatsoever to "reduction to practice." Although petitioner suggests that reduction to practice is implicit in the Patent Act's use of the term "invention," the Act's definition of that word indicates that it should be construed in light of its ordinary meaning "unless the context otherwise indicates." 35 U.S.C. 100(a).

The statutory context here does not require, or even suggest, petitioner's proposed construction. To the contrary, Sections 101 through 103 manifest Congress's understanding that an inventor can make an "invention" and apply for a patent without actually reducing the invention to practice. Indeed, Section 102(g) indicates that the term "reduction to practice" is a part of the test for determining priority among inventors and is not a part of the definition of invention; Section 102(g) unambiguously expresses the un-

derstanding that one "invention" could be "made," but not "reduced to practice," before a second "invention" is "made" and "reduced to practice." 35 U.S.C. 102(g). Congress revealed that same understanding in a variety of other statutes addressing the federal government's rights to patent "inventions" that are "made" in the course of government employment, assistance, or cooperative agreements. See, *e.g.*, Federal Technology Transfer Act of 1986, 15 U.S.C. 3703(9) and (10).

Petitioner's proposed construction is also inconsistent with Section 102(b)'s specific usage of the term "invention" and the policies underlying the on-sale bar. Section 102(b) uses the term invention in contexts in which it is clear that there is no need for the inventor to create a physical embodiment. For example, an invention need not be physically constructed to be "patented," "described in a printed publication" or—as in this case—placed "on sale." 35 U.S.C. 102(b). Furthermore, imposing a requirement of "reduction to practice" would defeat Section 102(b)'s primary statutory objective by allowing an inventor to exploit the commercial value of the invention while deferring the beginning of the statutory term of the patent. Petitioner's proposed test would also fail to provide a clear date from which the public, the PTO, and the courts could measure the commencement of Section 102(b)'s one-year grace period.

Petitioner is mistaken in suggesting that his proposed construction is supported by the Patent Act's legislative history and judicial precedent. The legislative history of the Patent Act is silent on the specific question of whether the term "invention" connotes actual reduction to practice, and this Court has never squarely addressed the question. Until the Federal Circuit's decision in *UMC Electronics Co.* v. *United States*, 816 F.2d 647, 652 (Fed. Cir. 1987), cert. denied, 484 U.S. 1025 (1988), the lower courts had not reached a consensus on whether Section 102(b)'s on-sale bar required actual reduction to practice. In the intervening years, the Federal Circuit, which has nationwide jurisdiction over patent cases, has consistently held that reduction to practice is not required for the bar to apply.

When, as in this case, it is undisputed that the inventor has offered his invention for commercial sale, Section 102(b)'s on-sale bar can be applied by simply examining whether the offer embodies the invention for which a patent is later sought. If the invention claimed in the patent application is the same invention that was offered for sale, or an obvious variation thereof, then the inventor is not entitled to a patent unless he submits his application within one year of the date on which the invention was placed "on sale." That test satisfies the language and statutory objectives of Section 102(b), and it provides a workable rule for inventors, competitors, the PTO, and the courts.

ARGUMENT

SECTION 102(b) OF THE PATENT ACT LIMITS THE PATENTABILITY OF A PREVIOUSLY SOLD INVENTION WITHOUT REGARD TO WHETHER THE INVENTION HAD BEEN REDUCED TO PRACTICE AT THE TIME THE INVENTION WAS PLACED ON SALE

A. Section 102(b) Does Not Require An Inquiry Into Whether The Invention Had Been Actually Reduced To Practice At The Time It Was Placed On Sale

Section 102 of the Patent Act sets out conditions on the issuance of a patent that are designed to ensure that the invention identified in the patent application

is sufficiently novel to justify the award. Section 102(b) states the condition of particular pertinence here: A person is not entitled to a patent if

> the invention was patented or described in a printed publication in this or a foreign country or in public use or *on sale* in this country, more than one year prior to the date of the application for patent in the United States.

35 U.S.C. 102(b) (emphasis added). Section 102(b)'s "on-sale" bar prevents an inventor who has placed his invention in commerce from obtaining a patent unless the inventor applies for a patent within one year of the sale. That provision implements Congress's long-standing policy judgment that inventors should not be allowed to exploit the commercial value of their inventions while postponing indefinitely the beginning of the patent's grant of a temporally limited monopoly. See, *e.g.*, *Bonito Boats, Inc.* v. *Thunder Craft Boats, Inc.*, 489 U.S. 141, 148-149 (1989); *Andrews* v. *Hovey*, 123 U.S. 267, 274 (1887); *Pennock* v. *Dialogue*, 27 U.S. (2 Pet.) 1, 23-24 (1829); Pet. App. 7a; *Ferag AG* v. *Quipp, Inc.*, 45 F.3d 1562, 1566 (Fed. Cir.), cert. denied, 516 U.S. 816 (1995); *UMC Electronics Co.* v. *United States*, 816 F.2d 647, 652 (Fed. Cir. 1987), cert. denied, 484 U.S. 1025 (1988); *Metallizing Eng'g Co.* v. *Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 519-520 (2d Cir.) (L. Hand, J.), cert. denied, 328 U.S. 840 (1946).

By its plain terms, Section 102(b) lends itself to a relatively simple and predictable bright-line rule: "if the sale or offer in question embodies the invention for which a patent is later sought, a sale or offer to sell that is primarily for commercial purposes and that occurs more than one year before the application renders the invention unpatentable." *Seal-Flex, Inc.* v. *Athletic Track and Court Constr.*, 98 F.3d 1318, 1325 (Fed. Cir. 1996) (Bryson, J., concurring in part and concurring in the result). See also *UMC Electronics Co.*, 816 F.2d at 655-656 (describing how Section 102(b) operates "in conjunction with the obviousness determination under section 103").

The question presented under Section 102(b) in this case is whether the socket that petitioner ultimately claimed in his application is the same as, or obvious in light of, the socket petitioner sold to TI. Because the sockets are the same, or differ only in respects that would have been obvious under Section 103 of the Patent Act, 35 U.S.C. 103, the on-sale bar should apply. See Pet. App. 13a, 20a.

B. The Patent Act Does Not Define "Invention" To Require Actual Reduction To Practice

Petitioner contends that Section 102(b)'s on-sale bar should not apply in this case because the bar applies to the sale of an "invention." Pet. Br. 11-12. According to petitioner, the Patent Act uses the word "invention" as a term of art that implicitly incorporates "reduction to practice" as a necessary part of the definition. *Id.* at 12. Petitioner argues—contrary to common usage and understanding—that he had not placed his invention "on sale" at the time that he accepted Delta V's purchase order because he had not yet embodied the invention in a physical form. *Id.* at 35-37.

The Patent Act does not support petitioner's counter-intuitive interpretation. The logical starting place is Section 100 of the Act, which defines relevant statutory terms. Section 100(a) states that, "unless the context otherwise indicates, * * * [t]he term 'invention' means invention or discovery." 35 U.S.C. 100(a). That statutory definition suggests that the

word "invention," in the normal course, should be understood in light of its familiar, non-technical meaning, which does not necessarily connote a reduction to practice. See *United States* v. *Bestfoods*, No. 97-454 (June 8, 1998), slip op. 13 (indicating that, when Congress defines a statutory term tautologically, the term should be understood to convey its "ordinary or natural meaning"); see also *Bailey* v. *United States*, 516 U.S. 137, 145 (1995).

Construing the term "invention" in light of its ordinary meaning is particularly appropriate in light of the structure of Section 100. Section 100(a)'s basic definition of "invention" coincides with that of authoritative English dictionaries, which typically define "invention" as the

> [a]ct of inventing, or discovering through study, experiment, etc.; a devising or contriving, esp. of that which has not before existed; as, the *invention* of gunpowder.

Webster's New International Dictionary 1305 (2d ed. 1958). Accord *Webster's New International Dictionary* 1136 (1st ed. 1917). At the same time, Section 100's qualification that the statutory definitions apply "unless the context otherwise indicates," preserves the possibility that the term "invention" might be construed in a more technical sense if the statutory context so requires. 35 U.S.C. 100.

Petitioner's construction, by contrast, cannot be reconciled with Section 100's reference to terms of common usage or its provision for departure from that usage where "the context otherwise indicates." 35 U.S.C. 100. Neither the term "invention" nor its statutory synonym "discovery" necessarily connotes the technical patent law concept of "actual reduction to practice," which generally requires that the invention be embodied in a physical form. See *Corona Cord Tire Co.* v. *Dovan Chemical Corp.*, 276 U.S. 358, 383 (1928); 3 D. Chisum, *Chisum on Patents* § 10.06, at 10-156; cf. *id.* § 10.05, at 10-142 to 10-155 (describing the concept of "constructive reduction to practice" through the filing of a patent application). If Congress had intended its definition to encompass that specialized concept in every case, it presumably would have said so. Congress's decision to define "invention" by words of common usage and then allow departures from that definition indicates that the term "invention" should not be construed to require actual reduction to practice unless the specific statutory context mandates that construction.

C. The Patent Act and Related Federal Statutes Indicate That An Inventor Can Make An "Invention" Without First Reducing It To Practice

The core provisions of the Patent Act, as well as other federal statutes respecting patent rights, indicate that petitioner is wrong in contending that the statutory term "invention" necessarily connotes an actual reduction to practice. To the contrary, the patent laws demonstrate Congress's understanding that an inventor can make an invention and obtain a patent for that invention, without reducing it to a physical form.

The core provisions of the Patent Act governing patentability—Sections 101 through 103—indicate that an inventor can make an "invention" without taking the step of actually reducing it to practice. For example, Section 101 states:

> Whoever *invents* or *discovers* any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement

thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35 U.S.C. 101 (emphasis added). Section 101 employs the terms "invents" and "discovers" as they are generally understood in common usage. Neither Section 101 nor Sections 102 and 103 require that a person who makes an "invention"—whether it takes the form of a "process, machine, manufacture, or composition of matter"—must actually reduce it to practice before that person may apply for or receive a patent.

To the contrary, this Court has indicated that patentability is dependent on the "three explicit conditions" set out in Sections 101 through 103: usefulness, novelty, and non-obviousness. *Graham* v. *John Deere Co.*, 383 U.S. 1, 12 (1966). The PTO has consistently followed the practice of issuing patents for inventions that satisfy those conditions, provided that the invention is described sufficiently in the application to satisfy the written description requirement and to enable a skilled artisan to practice the invention. See 35 U.S.C. 111-115 (describing required contents of a patent application); 35 U.S.C. 131, 151 (describing process of examination and issuance). An applicant may commonly be able to demonstrate reduction to practice at the time of application, but that demonstration is not necessary to obtain a patent. See, *e.g.*, *T.H. Symington Co.* v. *National Malleable Castings Co.*, 250 U.S. 383, 386 (1919); *The Telephone Cases*, 126 U.S. 1, 535-536 (1888); *Loom Co.* v. *Higgins*, 105 U.S. 580 (1881).

Sections 100 through 103 make only a single reference to "reduction to practice." Section 102(g) indicates that "reduction to practice" is a relevant criterion for determining priority among inventors if they assert competing rights to a patent for the same in-

vention. In that situation, the determination of which inventor had first actually reduced an invention to practice, and thereby made the invention available for public use, should have a bearing on which inventor is entitled to a patent. See 35 U.S.C. 102(g); 3 D. Chisum, *supra*, § 10.03[1], at 10-26; see generally *id.* at 10-26 to 10-27 (quoting *Laas* v. *Scott*, 161 F. 122, 126 (E.D. Wis. 1908)). Section 102(g) thus indicates that the concept of reduction to practice is part of the test for determining priority among inventors, and it is not part of the definition of the term "invention." See, *e.g.*, *Marconi Wireless Tel. Co.* v. *United States*, 320 U.S. 1, 34-35 (1943). Indeed, Section 102(g) plainly contemplates that one "invention" could be "made," but not "reduced to practice," before a second "invention" is "made" and "reduced to practice." See 35 U.S.C. 102(g).

Petitioner's assertion that the term "invention" necessarily connotes actual reduction to practice is not only inconsistent with the core provisions of the Patent Act, but it is also contrary to other federal statutes that describe, in various contexts, the federal government's rights to patent "inventions" that are "made" in the course of government employment, assistance, or cooperative agreements. Those statutes further demonstrate Congress's consistent understanding that its use of the term "invention" does not necessarily connote actual reduction to practice and that an inventor may make an "invention" without first reducing it to practice.

For example, the Federal Technology Transfer Act of 1986 (FTTA), 15 U.S.C. 3701 *et seq.*, encourages domestic research and development efforts that may lead to patentable inventions and prescribes standards for division of patent royalties. The FTTA defines the term "[i]nvention" synonymously with the Patent

Act to include "any invention or discovery which is or may be patentable or otherwise protected under title 35." 15 U.S.C. 3703(9). The FTTA further states that the term "'[m]ade' when used in conjunction with any invention means the conception *or* first actual reduction to practice of such invention." 15 U.S.C. 3703(10) (emphasis added). The FTTA thus indicates that Congress's use of the term "invention" does not necessarily connote an invention that has been reduced to practice. Indeed, the FTTA's definitions specifically provide—contrary to petitioner's thesis—that an inventor may make an "invention" without actually reducing it to practice.

The Patent Act Amendments of 1980, Pub. L. No. 96-517, 94 Stat. 3019, codified at 35 U.S.C. 201 *et seq.*, articulate the same understanding. The Amendments, which govern patent rights in inventions made with federal assistance, define the term "invenion" to mean "any invention or discovery which is or may be patentable or otherwise protectable under this title." 35 U.S.C. 201(d). The Amendments also state, in terms similar to those of the FTTA, that "the term 'made' when used in relation to any invention means the conception *or* first actual reduction to practice of such invention." 35 U.S.C. 201(g) (emphasis added). Like the FTTA, those definitions indicate—contrary to petitioner's argument—that an inventor may make an "invention" by conceiving it, without actually reducing it to practice.

The Federal Nonnuclear Energy Research and Development Act of 1974, 42 U.S.C. 5901 *et seq.*, reflects the same principle. That Act, which encourages the development of new energy technologies, states that "the term 'invention' means inventions or discoveries, whether patented or unpatented," and states that "the term 'made' when used in relation to any invention,

means the conception *or* first actual reduction to practice of such invention." 42 U.S.C. 5908(m)(3) and (4) (emphasis added). The National Aeronautics and Space Act of 1958, 42 U.S.C. 2451 *et seq.*, contains similar language. That Act provides that "the term 'made', when used in relation to any invention, means the conception *or* first actual reduction to practice of such invention." 42 U.S.C. 2457(j)(3) (emphasis added).

The foregoing statutes reflect Congress's consistent understanding that its use of the term "invention" does not necessarily refer to an invention that has been actually reduced to practice. To the contrary, each of those statutes—including Section 102(g) of the Patent Act itself—recognizes that an inventor may make an invention without reducing it to practice. If this Court were to accept petitioner's position, the Court would annul Congress's essential premise in each of those enactments.

D. Petitioner's Proposed Construction Is Inconsistent With Section 102's Usage Of The Term "Invention" And The Policies Underlying The On-Sale Bar

Petitioner's construction of the term "invention" is not only contrary to the terms of the Patent Act and other federal statutes, but it is also inconsistent with Section 102's general usage of that term and Section 102(b)'s specific policy objectives. There is no basis, accordingly, for petitioner to argue that the statutory "context otherwise indicates" (35 U.S.C. 100) that the term "invention" should have a specialized meaning when that term is used in relation to the on-sale bar.

Section 102 uses the term "invention" in contexts in which an invention might, but not always must, be actually reduced to practice. For example, an inven-

tion that is "in public use" (35 U.S.C. 102(a) and (b)) will normally exist in some form of physical embodiment—and therefore may be actually reduced to practice—by virtue of the fact that the invention cannot otherwise be "used." But Section 102 also uses the term "invention" in a number of other contexts in which it is clear that there is no need for the invention to be reduced to a physical form. For example, an invention need not be physically embodied to be "patented" (35 U.S.C. 102(b)), "described in a printed publication" (35 U.S.C. 102(a), (b) and (d)), "described in a patent" (35 U.S.C. 102(e)), "abandoned" (35 U.S.C. 102(c) and (g)), or "made" (35 U.S.C. 102(g)). See also pp. 14-15, *supra*. Furthermore, as this case demonstrates, an invention need not be physically embodied to be "on sale." 35 U.S.C. 102(b). Petitioner was able to conceive and design his invention of a socket for leadless chip carriers with sufficient particularity to make a commercial sale of his invention, without creating a physical embodiment prior to sale. Indeed, it can be expected that computer-assisted design and simulation technologies will increasingly allow inventors to conceive and test inventions without actually reducing them to practice in the traditional sense of a physically tangible embodiment.

Section 102(b)'s context does not require actual reduction to practice as a prerequisite for the on-sale bar. Furthermore, imposing that requirement would defeat Section 102(b)'s statutory objectives. "The foremost purpose of the on-sale bar is to 'prevent[] inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term.'" Pet. App. 6a, quoting *Ferag AG*, 45 F.3d at 1566; accord *In re Mahurkar Double Lumen Hemodialysis Catheter Patent Litigation*, 71 F.3d 1573, 1577 (Fed. Cir. 1995); *Envirotech Corp.* v. *Westech Eng'g, Inc.*, 904 F.2d 1571, 1574 (Fed. Cir. 1990). As Judge Learned Hand stated, Congress has determined that an inventor should not be given free rein to "exploit his discovery competitively after it is ready for patenting" and "thereby extend the period of his monopoly." *Metallizing Eng'g Co.*, 153 F.2d at 520. Instead, the "public shall as soon as possible begin to enjoy the disclosure." *Ibid.*

Petitioner's construction of invention would defeat that fundamental objective. An inventor who has offered his invention for commercial sale has objectively manifested his judgment that the invention is complete. As the record in this case demonstrates, the courts are entitled to interpret an offer for commercial sale in that light:

> Even though a prototype of the invention had not been built prior to the TI sale, the district court found that [petitioner] was confident, based on his drawings, that this invention would work. [Petitioner] testified that it was his practice to produce his inventions without building any prototypes and that he had almost always been successful with this approach. Indeed, that [petitioner] expected his invention to work for its intended purpose is substantiated by the large sale to TI and the ordering of customized tooling.

Pet. App. 10a-11a. It is accordingly appropriate to require that an inventor who offers his invention for commercial sale must file his patent application within the time period that Congress has prescribed—a one-year grace period commencing with the offer. 35 U.S.C. 102(b). If the inventor were allowed to postpone the beginning of the grace period until the invention is actually "reduced to practice," he would have the unilateral right to extend his pat-

ent rights beyond the time period that Congress has allowed. See, *e.g.*, *UMC Electronics Co.*, 816 F.2d at 655 ("by invoking reduction to practice as developed in interference law, an inventor might be able to escape the on-sale bar simply through deft claim draftsmanship").

Petitioner does not seriously contest that his construction raises the risk that inventors would be able to extend the time period of their patent monopoly. See Pet. Br. 32-33. He suggests, instead, that "the Federal Circuit has overemphasized this perceived policy" against extending the duration of the monopoly. *Id.* at 33 n.39. That policy, however, is reflective of the Constitution's specification that patents should be temporally limited and is as venerable as the patent laws themselves. See *Bonito Boats, Inc.*, 489 U.S. at 148-149; *Pennock*, 27 U.S. (2 Pet.) at 23-24. Petitioner also raises a more substantial objection. He contends that the Federal Circuit's test "has made it virtually impossible for inventors to determine with any certainty (or confidence) the filing deadline that will allow them to partake of the full grace period." Pet. Br. 34. Petitioner's proposed test, however, suffers from that very flaw. Petitioner would require a factual inquiry into the date of "actual reduction to practice." That test would not provide inventors, the public, the PTO, or the courts with a clear rule in those cases (such as this one) in which the inventor claims that he had not reduced his invention to practice at the time he placed the invention on sale.

The concept of actual reduction to practice is simply too uncertain and manipulable to provide a specific date from which to measure the one-year grace period. It is generally understood that "[a]ctual reduction to practice occurs when the inventor (1) constructs a product or performs a process that is

within the scope of the patent claims, and (2) demonstrates the capacity of the inventive idea to achieve its intended purpose." 3 D. Chisum, *supra*, § 10.06, at 10-156 (footnotes omitted). See *Corona Cord Tire Co.*, 276 U.S. at 383. The application of that general test frequently requires a detailed factual inquiry into the specific characteristics of the invention and the specific actions that the inventor took in constructing or testing the physical embodiment of his conception. See, *e.g.*, *Scott* v. *Finney*, 34 F.3d 1058, 1061-1063 (Fed. Cir. 1994). The test is unlikely to produce an objective or readily ascertainable date from which to measure the one-year grace period.

By contrast, the construction that we urge provides the type of bright-line rule that petitioner argues is appropriate. As this case indicates, the date when the inventor first offers the invention for commercial sale is often readily ascertainable, typically by documentary evidence. See Pet. App. 4a, 121a; J.A. 60. Under our construction, the inventor will be on clear notice of the commencement date for the one-year period in which to file a patent application or to make non-obvious improvements that would constitute a new invention. That construction also provides a simple test for the public, the PTO, and the courts. In determining whether Section 102(b)'s on-sale bar applies, potential competitors, the PTO, and the courts need examine only whether "the sale or offer in question embodies the invention for which a patent is later sought." See *Seal-Flex, Inc.*, 98 F.3d at 1325 (Bryson, J., concurring in part and concurring in the result).

The examination of whether the offer or sale "embodies the invention" entails the familiar patent law inquiry into the factors of novelty and non-obviousness that would need to be made under any test.

As the court of appeals correctly noted, "[t]he on-sale bar is not limited to a sale of, or offer to sell, a product that anticipates the later patented invention. It also applies if 'the subject matter of the sale or offer to sell . . . would have rendered the claimed invention obvious by its addition to the prior art.'" Pet. App. 14a (quoting *UMC Electronics Co.*, 816 F.2d at 656). But our proposed test, unlike petitioner's, does not require an additional inquiry into the date of "actual reduction to practice," which would entail a potentially complex factual inquiry into when the inventor created a physical embodiment of the device and when the inventor actually demonstrated that the invention could achieve its intended purpose. See, *e.g.*, *Scott*, 34 F.3d at 1061-1063; *Hybritech Inc.* v. *Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1375-1377 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987); *Great Northern Corp.* v. *Davis Core & Pad Co.*, 782 F.2d 159, 165 (Fed. Cir. 1986). That potentially complex inquiry is appropriate in determining priority among competing inventors, but it does not provide a clear rule for purposes of applying the on-sale bar, "which is guided by entirely different policies." *UMC Electronics Co.*, 816 F.2d at 655. Nor would the relevant factual information be likely to be reasonably available to the public, in order to determine whether particular competitive activity would infringe a valid patent. See *In re Mahurkar Double Lumen Hemodialysis Catheter Patent Litig.*, 831 F. Supp. 1354, 1369 (N.D. Ill. 1993), aff'd, 71 F.3d 1573 (Fed. Cir. 1995).

E. Petitioner's Proposed Construction Is Not Supported By The Legislative History Of The Patent Act Or Definitive Judicial Precedent

Petitioner argues that his construction is supported by the "legislative history" of Section 102(b)

(Pet. Br. 16-22) and "a substantial body of judicial authority" (*id.* at 22-28). Neither source provides an adequate basis for this Court to diverge from the clear implications of the language, structure, and objectives of Section 102(b).

Petitioner suggests that the legislative history of Section 102(b) actually begins with this Court's 1829 decision in *Pennock* v. *Dialogue*, *supra*, which recognized an implicit "on-sale" bar in the Patent Act of 1793. The Court concluded that "the true construction of the act is, that the first inventor cannot acquire a good title to a patent; if he suffers the thing invented to go into public use, or to be publicly sold for use, before he makes application for a patent." 27 U.S. (2 Pet.) at 23-24.

Congress later adopted an explicit on-sale bar in the Patent Act of 1836 that, like *Pennock*, rendered an invention unpatentable if the inventor placed the invention on sale before applying for a patent. Patent Act of 1836, ch. 357, § 6, 5 Stat. 117. Congress thereafter revised that provision to afford the inventor two years from the time of any sale of the invention to apply for a patent. Patent Act of 1839, ch. 88, § 7, 5 Stat. 354. See also Patent Act of 1870, ch. 230, § 24, 16 Stat. 201. None of those enactments indicated that the on-sale bar applied only to "inventions" that had been "reduced to practice."

Petitioner's only evidence that the Congresses of that era envisioned that the on-sale bar would require an "actual reduction to practice" arises from this Court's decision in *Andrews* v. *Hovey*, *supra*, which presented the question whether prior use and sale of an invention by persons other than the inventor, without the use or consent of the inventor, would bar the inventor's patent. See 123 U.S. at 268. The Court held that when such use or sale occurs more than two

years before the inventor's application, it "is fatal to the validity of the patent." *Ibid.* In reaching that result, the Court stated:

> The evident purpose of [Section 7 of the 1839 Act] was to fix a period of limitation which should be certain, and require only a calculation of time, and should not depend upon the uncertain question of whether the applicant had consented to or allowed the sale or use. Its object was to require the inventor to see to it that he filed his application within two years from the completion of his invention, so as to cut off all question of the defeat of his patent by a use or sale of it by others more than two years prior to his application, and thus leave open only the question of priority of invention.

Id. at 274. Petitioner interprets that passage as "adopting *completion* of an invention as an absolute prerequisite to starting the two year grace period." Pet. Br. 19. Petitioner, however, reads far too much into the Court's observations.

The first sentence of the passage quoted from *Andrews* states the Court's understanding that Section 7 sought "to fix a period of limitation" for the on-sale bar "that should be certain." That would be the case only if (as Section 7 states) the grace period ran from the date of *sale*. See 5 Stat. 354. The second sentence addressed the situation before the Court, in which a person *other than the inventor* used the invention or sold it to others more than two years before the inventor applied for a patent. The Court's statement that the "object" of the statute "was to require the inventor to see to it that he filed his application within two years from the completion of his invention" was simply a general observation about the

practical consequences of Congress's statutory scheme. The Court appeared to recognize that an inventor who applied for a patent within two years of the invention's "completion"—in the sense that the invention was ready for commercial sale or patenting—could avoid "the defeat of his patent by a use or sale of it by others more than two years prior to his application, and thus leave open only the question of priority of invention." 123 U.S. at 274. See *id.* at 270 (citing then-Judge Blatchford's opinion in *Egbert* v. *Lippman*, 15 Blatchf. 295, 297-298 (1878)). The Court did not hold that "completion" of the invention—in the sense of actual reduction to practice—itself provided the test for commencing the grace period. Such a holding would have contradicted the 1839 Act's specific terms, which stated that a patent is invalid if a "purchase, sale, or prior use has been for more than two years prior to such application for a patent." See *id.* at 272 (reciting the statutory language). And, of course, the distinction petitioner seeks to read into the passage was not a matter at issue in the case.

Petitioner next relies (Pet. Br. 20-21) on the legislative history of the Patent Act of 1939, which reduced the grace period from two years to one year. Ch. 450, § 1, 53 Stat. 1212. The House Report accompanying that legislation noted that the previous law "permits an inventor, after his invention is fully completed, to make the invention known to the public for a period of 2 years before the filing of the application for a patent." H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939). Petitioner provides no reason to believe that the House Committee (much less the full Congress) equated "full complet[ion]" with "reduction to practice." The Committee could have just as easily understood that an inventor has "fully completed" his invention when the invention is ready for commercial

sale or when the "'invention is in such a condition that he can apply for a patent for it.'" See *Andrews*, 123 U.S. at 270 (quoting *Egbert* v. *Lippman*, 15 Blatchf. 295, 297 (1878)).

Just as petitioner's recitation of legislative history does not provide a persuasive basis for holding that the term "invention," as used in Section 102(b), connotes a "reduction to practice," petitioner's recitation of judicial precedent is also unconvincing. As an initial matter, this Court has not addressed the question of the relationship between the on-sale bar and the concept of reduction to practice. The Court's past discussions of "reduction to practice" have arisen in the context of disputes among competing inventors that have not involved the meaning of the on-sale bar. See, *e.g.*, *Corona Cord Tire Co.*, 276 U.S. at 383; *T. H. Symington Co.*, *supra*; *Clark Thread Co.* v. *Willimantic Linen Co.*, 140 U.S. 481 (1891); *Seymour* v. *Osborne*, 78 U.S. (11 Wall.) 516 (1870). Furthermore, the Court has itself used the term "invention" in ways that indicate that the term does not necessarily embody the concept of reduction to practice. See 78 U.S. at 552 ("Original and first inventors are entitled to the benefit of their inventions if they reduce the same to practice.").

While this Court has not addressed the issue, the lower courts have historically been in disarray on the question. The Federal Circuit canvassed a number of the leading cases in *UMC Electronics Co.*, 816 F.2d at 653-657, and concluded as follows:

> Some courts have rejected any rigid rules for the operation of the statutory bar, focusing, as much of our precedent does, on the policies of the statute. * * * The regional circuits that have considered the question have given lip service to a

> requirement of reduction to practice as part of the on-sale bar. However, when faced with a specific factual situation which appeared to fall within the intent of the statutory bar but did not technically satisfy the requirements for reduction to practice, these courts have stepped back from a rigid application of that requirement.

Id. at 654-655 (footnote omitted). Contrary to petitioner's suggestions (Pet. Br. 23-24), the case law was not consistent prior to the Federal Circuit's decision in *UMC Electronics Co.*, and inventors had no basis for believing that the law was settled. Furthermore, even if the decisions of the courts of appeals demonstrated greater uniformity in support of petitioner's position, that circumstance would not control this Court's conclusion respecting the meaning of Section 102(b). See, *e.g.*, *Brogan* v. *United States*, 118 S. Ct. 805, 811 (1998).

F. The Court Should Adopt A Clear Standard For Applying Section 102(b)'s On-Sale Bar To Commercial Sales

Since its decision in *UMC Electronics Co.*, *supra*, the Federal Circuit has consistently rejected the notion that Section 102(b)'s on-sale bar applies only if the invention offered for commercial sale had been reduced to practice. See Pet. App. 8a; *Micro Chem., Inc.* v. *Great Plains Chem. Co.*, 103 F.3d 1538, 1544-1545 (Fed. Cir.), cert. denied, 117 S. Ct. 2516 (1997); *Petrolite Corp.* v. *Baker Hughes, Inc.*, 96 F.3d 1423, 1427 (Fed. Cir. 1996); *Ferag AG*, 45 F.3d at 1566-1568. In applying the on-sale bar, the court has typically inquired whether the invention in question was "substantially complete," in the sense that there was reason to expect that it would work, at the time of the sale or offer for sale. See Pet. App. 9a, 13a. The court

has also stated that "'[a]ll of the circumstances surrounding the sale or offer to sell, including the stage of development of the invention and the nature of the invention, must be considered and weighed against the policies underlying section 102(b).'" *Id.* at 6a, quoting *Micro Chem., Inc.*, 103 F.3d at 1544, and *UMC Electronics Co.*, 816 F.2d at 656.

It may be the case that, where the parties dispute whether an invention has been offered for sale for "experimental" rather than for commercial purposes, see, *e.g.*, *Seal-Flex, Inc.*, 98 F.3d at 1321, a court may need to evaluate the "circumstances surrounding the sale or offer to sell," Pet. App. 6a. But in cases such as this one, where it is undisputed that the sale of the invention was for a commercial application, the pertinent inquiry, we believe, is more straightforward and direct. Section 102(b)'s on-sale bar can be effectively implemented in accordance with congressional intent by examining whether the offer to sell or sale "embodies the invention for which a patent is later sought." *Seal-Flex, Inc.* 98 F.3d at 1325 (Bryson, J., concurring in part and concurring in the result). This approach provides clear guidance: If an inventor offers to sell or sells an invention for commercial purposes, and the inventor fails to file an application for a patent within one year of the offer or the sale date, then the invention is not patentable unless the inventor can show that the claimed invention contains new features that would not have been obvious in light of the invention offered or sold. That test satisfies the language and objectives of Section 102(b) and provides a workable rule for inventors, competitors, the PTO, and the courts.

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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IN THE
SUPREME COURT OF THE UNITED STATES

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

vs.

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Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

---

BRIEF OF GLOBAL GAMING TECHNOLOGY, INC., *AMICUS CURIAE*, IN SUPPORT OF WAYNE K. PFAFF'S WRIT OF CERTIORARI GRANTED BY THE COURT ON MARCH 9, 1998

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BRIEF OF GLOBAL GAMING TECHNOLOGY, INC., *AMICUS CURIAE*, IN SUPPORT OF PFAFF'S WRIT OF CERTIORARI GRANTED BY THE COURT ON MARCH 9, 1998

Global Gaming Technology, Inc. ("Global") respectfully submits this Brief as *amicus curiae* in support of Wayne K. Pfaff's Writ of Certiorari which was granted by this Honorable Court on March 9, 1998.

I. SUMMARY OF ARGUMENT.

Global submits this *amicus curiae* brief in support of Petitioner, Wayne K. Pfaff ("Pfaff"), for three reasons.[1] First, to underscore the importance that inventors be given the opportunity to test their inventions prior to triggering the on-sale clock. The importance of allowing inventors an opportunity to test their inventions was clearly recognized by this Court over 120 years ago and should be preserved as a component of any on-sale criterion that it establishes in this case. Elizabeth v. Pavement Company, 97 U.S. 126, 24 L.Ed. 1000, 7 Otto 126 (1877).

Second, Global submits this *amicus curiae* brief to explain why the Federal Circuit's new 'substantially complete' test is inconsistent with this Court's established precedent and is also difficult for inventors to interpret. In particular, the Federal Circuit's re-interpretation of Section 102(b) has eroded the right of inventors to test their inventions, and as such is inconsistent with Elizabeth, supra. The inconsistency arises because it is impossible for inventors to know whether an invention is complete until it is tested. Yet, the substantially complete test triggers the on-sale clock before an invention is fully completed and, as a result, before a device can be adequately tested. As a result, the substantially complete test is a stunning example of judicial hindsight in that it presupposes the inventor knew before completion or testing that the invention was capable of completion and successful testing. This Court long ago

---

[1]Pursuant to S. Ct. Rule 37.6, Global states this *amicus curiae* brief was authored by its counsel and that no person or party other than Global made a monetary contribution to its preparation or submission.

recognized the flaw in this logic, in the public use context, when it held only "experiments will reveal the fact whether any and what alterations [to an invention] may be necessary." Id. at 134.

Third, Global submits this brief to explain how the flawed logic of UMC v. United States, 816 F.2d 647 (Fed. Cir. 1987) has resulted in even more drastic changes to the law than even those changes contemplated by the UMC panel. Namely, it was well established prior to UMC that in order for an offer of sale to trigger the on sale clock, the following elements had to exist *at the time of the offer of sale*:

> (1) the complete invention claimed must be embodied in or obvious in view of the thing offered for sale; (2) the thing offered for sale must be reduced to practice; and (3) there must be a definite sale or offer for sale, primarily for profit rather than for experimental purposes.

Id. at 659 (dissenting opinion). See also Timely Products v. Stanley Arron, 523 F.2d 288 (2nd Cir. 1975). Accordingly, for over 150 years an offer to sell made at a time when the invention was not fully completed was simply not an on sale event.[2] Even the majority in UMC recognized that an offer

---

[2]See dissenting opinion of Judge Smith in UMC where he observes:

> Our past decisions

to sell a concept could not trigger the Section 102(b) clock. Id. at 657. Yet, the ambiguities created by the logic of UMC have led certain justices serving with the Federal Circuit to conclude that substantial completion of an invention after an offer for sale constitutes a Section 102(b) bar if the completion occurs prior to the critical date. Robotic Vision Systems, Inc. v. View Engineering, Inc.,112 F.3d 1163 (Fed. Cir. 1997).

Global also provides the Court a brief introductory explanation of the facts of its case so that matters presented by Global can be placed in context and to emphasis the real world difficulties created by the UMC decision.

> consistently have held, as a threshold requirement for the section 102(b) on-sale bar, that a device must be in existence and shown to work for its intended purpose (the classical definition of reduction to practice) before the on-sale bar can apply. The panel majority does not seriously dispute that this has been the law of the circuit, the law of our predecessor courts, and the law of the land, for 150 years.

Id. at 659.

II. ARGUMENT.

A. Background of *Global's* Claim.

The faulty analysis which led to a trial court's determination that Global's patent is invalid pursuant to Section 102(b) provides an interesting case study of the uncertainty created by the Federal Circuit as a result of its deviation from the well established fully completed test. We, therefore, provide the Court a brief description of Global's plight to underscore the need for a clear interpretation of Section 102(b) *that inventors can both understand and accurately apply*.

Global was awarded U.S. Patent No. 4,099,722 in 1978, which patent discloses the basic operations and controls for the modern electronic slot machine. Among the problems which the prior art had failed to resolve were durability and prevention of theft. In this regard, the '722 patent states at column 1, lines 18-23, that:

> Due to the large number of repeated operations required by mechanical components such machines require frequent maintenance and repair. The anti-cheat and anti-theft mechanisms of the prior art have also been found to be ineffective.

The '722 patent was filed on July 30, 1975, establishing July 30, 1974 as the critical date for purposes of Section 102(b).

The development of the invention disclosed in the '722 patent began at least as early as the fall of 1973, at about which time Global offered to sell 200 of the new electronic slot machines to one of its customers for *delivery in 1975* subject to the following contractual condition:

> Seller represents that the Machines shall have a physical appearance substantially similar to and shall perform substantially the same functions of the Mechanical slot machines currently in operation at [the purchasers] Hotel.

Global then continued working feverishly to complete a commercially viable electronic slot machine, which process resulted in a prototype being submitted to the Nevada Gaming Control Board for approval in the fall of 1974 (after the critical date). The subsequent field testing by the Nevada Gaming Control Board occurred in and around December of 1974 and January of 1975. The field test conducted at that time was the first occasion on which Global's new electronic slot machine was tested in a casino or, for that matter, with members of the general public. These tests confirmed the durability and security of Global's invention. Global's new slot machine passed field testing and was approved for sale by the Nevada gaming authorities toward the end of January of 1975, and the first machines where actually delivered to a customer during the Summer of 1975.

Despite these facts, the trial court found that Global's patent was invalid because "[o]n June 1, 1974, Global had a fully operational *prototype* which had each element of

independent claims one and twelve at issue in this case." IGT v. Global Gaming Technology, Inc., CV-S-94-601-HDM (D. Nev. 1997). The trial court failed to consider in its opinion that the so-called fully operational prototype was never tested prior to the critical date so that Global could have the opportunity to determine whether the device was, in fact, more durable and less prone to cheating than existing mechanical operating systems. As such, the logic of the trial court is directly contrary to this Court's opinion in Elizabeth, supra.

Global respectfully submits that if the Federal Circuit were still applying the fully completed standard as virtually all, if not all, Courts followed when Global was developing its invention, Global would not be burdened with the faulty analysis that led to the invalidation of its patent. In that sense, a substantial injustice has been occasioned on Global by the Federal Circuit. Under the law in existence at the time Global was developing the invention disclosed in the '722 patent, the device was clearly not 'on sale.' Now, however, the rules have changed and, even though Global believes its patent should not have been found invalid under the current state of the law, no error would have been possible by the trial court if it were applying the fully completed test.

B. Inventors Should Be Given an Opportunity to Test Their Inventions Prior to the Start of the On-Sale Clock.

Testing has long served as one of the cornerstones to determining whether the on-sale clock has been triggered. See e.g. Timely, supra. And, in 1877, even this Court recognized the importance that inventors be given an opportunity to test in the related 'public use' context. In

Elizabeth, supra, the Court considered whether a patent issued for a new wooden pavement system was invalid because it had been in public use for six years prior to the date on which the patent application was filed. Rejecting the argument, this Court reasoned:

> . . . But can it be said that the invention was in public use? The use of an invention by the inventor himself, or of any other person under his direction, by way of experiment, and in order to bring the invention to perfection, has never been regarded as such a use. Curtis, Patents, sect. 381; *Shaw v. Cooper 7 Pet. 292.*
>
> . . .
>
> When the subject of invention is a machine, it may be tested and tried in a building, either with or without closed doors. [*135] In either case, such use is not a public use, within the meaning of the statute, so long as the inventor is engaged, in good faith, in testing its operation. He may see cause to alter it and improve it, or [**18] not. His experiments will reveal the fact whether any and what alterations may be necessary. If durability is one of the qualities to be attained, a long period, perhaps years, may be necessary to enable the inventor to discover whether his purpose is accomplished. And though, during all that period, he may not find that any changes are necessary, yet he may be justly said to be using his machine only by way of experiment; and no one would say that such a use, pursued with a bona fide intent of testing the qualities of the machine, would be a public use, within the meaning of the statute. So long as he does not voluntarily allow others to make it and use it, and so long as it is not on [***1005] sale for general use, he keeps the invention under his own control, and does not lose his title to a patent.

The logic of the Court, as expressed in 1877, still rings true over 120 years later. Inventors need to test their inventions because, prior to adequate testing, inventors cannot know whether their invention is complete.

The Court of Appeals has also attempted to preserve the right of inventors to test in its post-UMC decisions. So,

for example, the Federal Circuit has held that an invention is not "substantially complete" (and certainly not "fully complete") unless and until the inventor has been given the opportunity to test the invention to determine whether it will work for its intended purpose. In Seal-Flex, Inc. v. Athletic Track and Court Construction, 98 F.3d 1318 (Fed. Cir. 1996) the Federal Circuit explained that even if an invention is actually completed before the critical date and at the time of an offer for sale--the §102(b) bar still is not triggered if the inventor believed that the completed product still needed to be tested, and the testing had not been completed at the time of the offer or other allegedly "triggering" customer contact. The Federal Circuit explained that the reason the "on-sale" bar is not triggered is because the invention must not only be complete (or at least substantially complete), [but] it also "must" be "known to work for its intended purpose." Id. at 1324. As the Federal Circuit explained:

> [W]e conclude that the district court erred in its application of the law of the -on-sale bar of 35 U.S.C. §102(b), for if in fact the Beloit track required evaluation under actual conditions of weather and use in order to determine whether it would be satisfactory for its intended purpose, then it could not be held as a matter of law that contacts with potential future customers started the one-year bar during that evaluation period.

Id. at 1322.

And, in Kolmes v. World Fisher's Corp. 107 F.3d 1534 (Fed. Cir. 1997), the Federal Circuit held that although completed gloves made of the patented cut-resistant yarn were in fact distributed before the critical date, that distribution did not trigger the §102(b) bar because the gloves still needed to be tested for their intended environment--which testing had not been completed prior to the critical date. As the Federal Circuit specifically noted:

> An inherent feature of Kolmes' invention was durability, the ability to withstand use in an environment such as a meat-packing plant with repeated laundering. That feature is evident from the preamble of claim 1. . . . Testing was hence required in such an environment in order to ensure that the invention would work for its intended purpose.

Id. at 1540.

Accordingly, regardless of whether this Court ultimately decides to affirm or reverse the Federal Circuit's interpretation of 35 U.S.C. Sec. 102(b), Global asks that it reaffirm the central role testing must play in determining when the on-sale clock begins to run.

C. The Substantially Complete Test is Inconsistent With This Court's Established Precedent and is Difficult for Inventors to Interpret.

The Federal Circuit's approach of allowing patents to be declared invalid before the inventions claimed are fully reduced to practice is inconsistent with this Court's decision in Elizabeth, supra, in that inventors can only know whether their inventions are complete after they have been completed and tested. On this point the Court observed that "so long as the inventor is engaged, in good faith, in testing [an inventions] operation. He may see cause to alter it and improve it, or not. His experiments will reveal the fact whether any and what alterations may be necessary." Id. at 135. The obvious paradox that the Federal Circuit has created is that inventors cannot know whether or at what point their invention was 'substantially complete' until the device has been completed and tested . . . and works. Any thing short of full completion and testing requires the inventor to essentially guess that the development process can be successfully completed. Congress never intended that inventors be required to guess that their inventions will work.

The "substantially complete" test which has been embraced by the Federal Circuit is also extremely difficult for inventors to interpret because it fails to provide inventors a clear line of demarcation. In this regard, it is extremely common for inventors to embark on a development process, build a prototype, and then market that prototype with really no idea whether their so-called invention has, in fact, been invented before by someone else. Patent lawyers, as well as an army of examiners at the United States Patent and Trademark Office (" USPTO"), make their living conducting

prior art searches to tell inventors, usually years after the development process is complete, whether they have an invention and, if so, exactly how that "invention" will ultimately be defined. Nonetheless, when the Federal Circuit applies the "substantially complete" test it basically assumes inventors know how their inventions will be defined. It does this by attempting to determine whether the elements of the claims which are alleged to be invalid were reduced to practice prior to the critical date. See, for example, UMC. Yet prior to the critical date most inventors have no idea how their inventions will be defined, and as a result certainly do not know at what point in the development process the invention is substantially complete versus fully complete. As a result, the substantially complete test should be renamed the crystal ball test. The unfair and unworkable burden that this crystal ball test imposes on inventors, is largely avoided by the fully completed standard for under that approach inventors are provided with all of the objective input needed to reach the subjective conclusion that a patent application must be filed, i.e. a device that is fully reduced to practice which has been sufficiently tested so that the inventor knows it works for its intended purpose.

Accordingly, the Federal Circuit's deviation from the well-established fully completed standard has deprived inventors of exclusionary rights which Congress intended to extend, and has required inventors to predict with perfect foresight how the USPTO will define their inventions. The fully completed strikes an appropriate balance between the competing policy goals, has worked well for over one hundred and fifty years, and Congress has done nothing to indicate a desire that the standard be changed.

D. The Flawed Logic of UMC has Led to Even More Drastic Opinions From the Federal Circuit

Judicial activism carries a price. As pertains to the issues raised in this case, the Federal Circuit's deviation from the long standing and easy to apply fully completed standard has led to even more drastic opinions from the Federal Circuit. In particular, one panel of the Federal Circuit has recently held that substantial completion of an invention *after* an offer for sale constitutes a section 102(b) bar if the completion occurs *prior* to the critical date. Robotic, supra. In that decision the Court stated that "[c]ompletion of the invention prior to the critical date, pursuant to an offer to sell that invention, would validate what had been theretofore an inchoate, but not yet established bar." Id. at 1168.

The Robotic decision both flies in the face of well established precedent (including UMC) and underscores why the vague standard created by UMC simply cannot stand. In short, inventors need a bright line standard to know when they must make the substantial investment of a patent application. Yet, as evidenced by the Robotic decision, the rules are in a constant state of flux because under UMC courts are free to formulate their own interpretation of the law in each case. This does not represent the rule of law, it represents the rule of advocacy.

Indeed, in the leading case of Timely Products, the Second Circuit, after a thorough analysis of the decisional law and legislative history held that a reduction to practice must exist at the time of the offer, not just before the critical date. Id. at 302 (holding that "*at the time* Arron took the order from Alexander Sales, the sock offered had been made and

successfully tested, and that his purpose was purely commercial exploitation"). Even in UMC, the Federal Circuit held that "[i]f the inventor had merely a conception or was working towards development of that conception, it can be said there is not yet any "invention" which could be placed on sale." Id. at 657. And more recently, in Micro Chemical, Inc. v. Great Plains Chemical Co., 103 F.3d 1538 (Fed. Cir. 1997), the Federal Circuit held that while "reduction to practice of the claimed invention is not a prerequisite for triggering the on-sale bar . . . [it] requires that 'the claimed invention asserted to be on sale was operable, the complete invention claimed was embodied in or obvious in view of the device offered for sale, and the sale or offer was primarily for profit rather than for experimental purposes.'" Id. at 1544, quoting Keystone Retaining Wall Sys. v. Westrock, Inc., 997 F.2d 1444, 1451 (Fed. Cir. 1993). Accordingly, the Micro Chemical court held the product was not on-sale because "[t]he evidence compels a conclusion that Pratt's invention was clearly not completed *when he made the December offer*." Id. at 1544, (emphasis added).

Despite this authority, the Federal Circuit in Robotic felt free to disregard the fact that the invention at issue in that case was not reduced to practice or even substantially completed at the time of the offer for sale. Global respectfully submits the reason why this inconsistent decision was rendered is because the logic of UMC opens the door to a loose case by case analysis and, in so doing, fails to provide inventors a bright line standard against which they can gauge their conduct. This fundamental flaw in the UMC approach subverts the entire purpose of the patent laws of this country, and should be rejected by this Court.

III. CONCLUSION.

For the foregoing reasons, Global Gaming Technology, Inc. respectfully requests this Honorable Court establish the fully completed test as the law of the land.

DATED this 12th day of May, 1998.

RESPECTFULLY SUBMITTED,

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STATEMENT OF INTEREST

The American Intellectual Property Law Association ("AIPLA") is a national association of more than 10,000 members, primarily attorneys, whose interests and practices lie in the areas of patent, copyright, trademark, trade secret, and other intellectual property law. AIPLA attorneys are employed by private law firms, corporations, universities, and governments, and they represent both patent owners and competitors of patent owners.

The AIPLA has no interest in either of the parties to this litigation or in the outcome of this case, other than its interest in seeking correct and consistent interpretation of the law and litigation procedures relating to patents.

Petitioner and respondent have consented to the filing of this brief, *amicus curiae*; their consents have been filed with the clerk of this Court.[1]

SUMMARY OF ARGUMENT

The invention described in a patent is defined by one or more claims set out at the end of the patent specification. 35 U.S.C. § 112. In the event that the subject matter of a claim is not "novel," as measured by the circumstances specified in 35 U.S.C. § 102, then that claim is invalid.

Subsection 102(b) provides that a claimed invention is invalid if

> the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year

---

1. No interested party authored this brief, in whole or part, or paid any of the costs of producing it.

> prior to the date of the application for patent in the United States . . . .

35 U.S.C. § 102(b). This statute plainly has two concepts in mind in referring to the "invention". First, the statute intends to refer to a writing that describes the claimed invention — a "patent" or a "printed publication". An actual device embodying the invention is not required. However, the statute also has a second concept in mind by referring to an invention "in public use". Here, the statute manifestly refers to an actual device embodying the claimed invention — since otherwise, the invention would not be in use.

The question before this court is whether Congress intended the statute to have a third meaning in determining whether an invention was "on sale". The Court of Appeals for the Federal Circuit says yes, and that this meaning requires no physical embodiment of the invention, but rather a judicial determination whether, based upon "all of the circumstances" — circumstances that are evaluated *de novo* by the Federal Circuit appellate court — "there was 'reason to expect that it would work for its intended purpose upon completion' ". *See Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1432-33, 1434 (Fed. Cir. 1997).

The AIPLA, on behalf of its membership, urges that the answer is no — that in determining whether an invention was "on sale" under 35 U.S.C. § 102(b), the statute requires an actual device embodying the invention — as it plainly does for a public use. The AIPLA believes that this interpretation is more in accord with the statutory language, the decisions of this court, and considerations of sound public policy.

ARGUMENT

I.

THE ORIGINS OF THE STATUTE AND THE DECISIONS OF THIS COURT ALL REFLECT AN INTENT TO REQUIRE A PHYSICAL EMBODIMENT TO BE ON SALE.

The relevant portion of the statute at issue, 35 U.S.C. § 102(b), which patent practitioners refer to as the "on sale bar", did not originate with the 1952 Patent Act, the current patent statute. Rather, the on sale bar in Section 102(b) is simply the latest expression of a rule of law going back over 120 years.

The very first patent acts of this Republic, the Act of April 10, 1790, Ch. 7, § 1, 1 Stat. 109, 110, and the Act of February 21, 1793, Ch. 11, § 1, 1 Stat. 318, 319, both permitted the grant of a patent for an invention that was not before "known or used". Although the act of selling the invention was not expressly stated as a basis for invalidating a patent right, placing an invention "on sale" was considered to be a "use" within the meaning of the statute. *See Pennock & Sellers v. Dialogue*, 27 U.S. (2 Pet.) 1 (1829) (Story, J.). In *Pennock & Sellers*, this Court affirmed a circuit court judgment in favor of a defendant charged with infringing a patent on a hose, where thousands of feet of the later-patented hose had been sold prior to filing. *See, e.g., id.* at 1, 3, 23-24. In interpreting the meaning of "use" in the 1793 Act, this Court looked to an analogous British case, finding a sale to be a "use." *Id.* at 20. But the Court then went further, and observed that the invalidating sale in that case was of the actual thing invented, and not just the concept:

> By "invention", the learned judge undoubtedly meant, as the context abundantly shows, not the abstract discovery, but the *thing* invented; not the new secret principle, but the manufacture resulting from it.
>
> The words of our statute are not identical with those of the statute of James, but it can scarcely admit of doubt, that they must have been within the contemplation of those by whom it was framed, as well as the construction which had been put upon them by Lord Coke.

Id. at 20-21 (emphasis in original).

The Patent Act of 1836 was the first to separately state the public use and on sale bars, as follows:

> [A]ny person or persons having discovered or invented any new and useful art, machine, manufacture, or composition of matter . . . not, at the time of his application for a patent, *in public use or on sale*, with his consent or allowance . . . may make application in writing to the Commissioner of Patents . . . .

Act of July 4, 1836, Ch. 357, § 6, 5 Stat. 117, 119 (emphasis added). The legislative materials do not indicate that by separately stating "use" and "on sale", Congress intended these terms to have different meanings — one referring to a physical embodiment of the invention, and the other to a legal construct determined from "all of the circumstances." *See generally* S. Rep. 24-338 (1836). Rather, it is most likely that Congress separately referred to "on sale" in the 1836 Act simply to codify the existing case law, as stated by this Court in *Pennock & Sellers*, and which

plainly contemplated a physical embodiment of the invention being "on sale."[2] *See* 127 U.S. at 20-21.

That Congress intended "on sale" to refer to a physical embodiment of the invention is made even clearer by Section 7 of the Patent Act of 1839, which added a two-year grace period to the bars on prior use and sale. This was done to alleviate the harshness of the prior statute, which absolutely barred a patent for any prior use or sale, no matter how short. *Andrews v. Hovey*, 123 U.S. 267, 273 (1887). Section 7 of the 1839 Act read as follows:

> That every person or corporation who has, or shall have, purchased or constructed any newly invented machine, manufacture, or composition of matter, prior to the application of the inventor or discoverer for a patent, *shall be held to possess the right to use, and vend to others to be used, the specific machine, manufacture, or composition of matter so made or purchased*, without liability therefor to the inventor, or any other person interested in such invention; and *no patent shall be held to be invalid by reason of such purchase, sale, or use prior to the application for a patent* as aforesaid, except on proof of abandonment of such invention to the public; or that such purchase, sale, or prior use has been for more than two years prior to such application for a patent.

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2. One commentator has stated that Congress enacted the on sale bar "to halt the fraudulent practice, begun under the Patent Act of 1793, of patenting inventions that had long been in public use." R.J. Barrett, Note, *New Guidelines for Applying the On Sale Bar to Patentability*, 24 Stan. L. Rev. 730, 731 (1972). While Congress did want to halt this fraudulent practice, Congress' solution in the 1836 Act was to empower the Patent Office to examine applications on the merits, not to create a new on sale bar. *See* S. Rep. No. 24-338, at 3-4 (1836). Under the prior 1793 Act, the issuance of patents was essentially a ministerial act, with validity tested only by way of litigation. *See generally id.*

Act of March 3, 1839, Ch. 88, § 7, 5 Stat. 353, 354 (emphasis added).

This statute made express that the on sale bar was intended to apply only to physical embodiments of the invention. The first clause refers to an individual's right to "use, and vend to others" machines "made or purchased" prior to the filing of a patent application. The act of vending in this first clause thus requires a physical embodiment — a machine previously "made or purchased." The second clause of this statute essentially invalidates any patent applied for more than two years after "such purchase, sale, or use". The only antecedent of "such sale" in the second clause is the right to "vend to others" referred to in the first clause — which, as just explained, must refer to a physical embodiment. This interpretation of the statute has been confirmed by this Court. *See Andrews v. Hovey*, 123 U.S. 267, 273 (1887).

It is therefore absolutely clear that the 1839 statute, in referring to a "purchase, sale or prior use . . . more than two years prior to such application for a patent", required the sale of a physical embodiment of the patented device.

The 1839 Act also deleted the requirement in the 1836 Act that a public use or sale arose only when done with the inventor's consent. *Compare* Act of July 4, 1836, Ch. 357, § 6, 5 Stat. 117, 119, *with* Act of March 3, 1839, Ch. 88, § 7, 5 Stat. 353, 354. Notably, this Court indicated that the purpose of this deletion was to make the duration of the grace period easily calculated:

> The evident purpose of the section was to fix a period of limitation which should be certain, and require only a calculation of time, and should not depend upon the uncertain question of whether the applicant had consented to or allowed the sale or use.

Andrews v. Hovey, 123 U.S. 267, 274 (1887).

In 1870, the statute was amended again, and reverted back to the "public use or on sale" language used in the 1836 Act. Act of July 8, 1870, Ch. 230, § 24, 16 Stat. 198, 201. The changes in wording were apparently made for clarity only; again, it is likely that in employing the simpler language Congress did not intend to change the meaning of "on sale" to require something other than a physical embodiment — as was plainly required by the 1839 Act immediately preceding.[3] Although following the 1870 Act, additional changes to the "public use" and "on sale" bars were passed, they did not change the meaning of these terms;[4] indeed, the phrase in the statute at issue today — "in public use or on sale" — is the same as in the 1836 Act. The AIPLA accordingly submits that there is nothing in the history of Section 102(b), the legislative material of Congress, or the decisions of this Court, supporting the statutory interpretation below.

Additionally, over 100 years ago, this court recognized that the statute was intended to make "certain" the time period for calculating when a patent application needed to be filed, and found that calculation of the time period should not depend upon an "uncertain question". *Andrews v. Hovey*, 123 U.S. at 274 (1887). The AIPLA submits that these statements are as true today as they were when made.

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3. The Congressional discussion of the 1870 Act reflects that changes were made to Patent Office compensation, rights of appeal from the Commissioner, rights to test a patent's validity in court, and payment of fees. *See* CONG. GLOBE, 41st Cong., 2d Sess. 2679-2683 (1870). Representative Jenckes of the Committee on Patents of the House stated that "[i]n other respects the law stands without any other change than that it is enlarged, defined, made clear in its terms and provisions and in its proposed execution . . . ." *Id.* at 2683.

4. In the Patent Act of 1897, the public use or sale was expressly required to occur "in this country". *See* Act of March 3, 1897, Ch. 391, § 4886, 29 Stat. 692, 692. The Patent Act of 1939 shortened the grace period from two years to one year. *See* Act of August 5, 1939, Ch. 450, § 1, 53 Stat. 1212, 1212.

Further, the analysis must presume that an invention was made which would, but for the on sale bar, have resulted in a valid patent. Thus to the extent the "on sale" conclusion is based on acts done by the patent applicant itself, it is a form of forfeiture. By not filing within a year after doing the triggering act, the otherwise existing right to a patent is lost. In accordance with the general principle that forfeitures are not favored, and laws creating them are strictly construed, *see Farmers' and Mechanics' National Bank v. Dearing*, 91 U.S. 29, 35 (1875); the triggering act should be one that is clearly recognizable as such at the relevant time, and not be subject to a fluid "all of the circumstances" test applied years later in a litigation, *see Pfaff*, 124 F.3d at 1433.

II.

REQUIRING A PHYSICAL EMBODIMENT BEFORE DEEMING AN INVENTION ON SALE IS IN THE PUBLIC INTEREST.

A paramount objective of any law is that it be clear. This is particularly true with laws that regulate commercial activities, where clear laws allow decisions to be made quickly, efficiently and with confidence. Vague laws, in contrast, leave people uncertain as to what conduct is permitted and cause needless expenditures of the resources of the enterprises whose conduct is sought to be governed. The AIPLA submits that interpreting the "on sale" provision of Section 102(b) to require completion of a physical embodiment provides the best guidance for inventors and best promotes "the progress of science and useful arts." U.S. CONST. art. I, § 8, cl. 8.

Assuming that an act that can give rise to a bar has taken place, measuring the time to file an application from the date that an actual embodiment of the invention is made gives the inventor

a clear guide as to when a patent application must be filed. By simply referring to the date when the first device was completed, the inventor is able to calculate in a simple manner when a patent application must be filed. *See Andrews v. Hovey*, 123 U.S. 267, 274 (1887).

Also, it is common to make numerous changes to an invention between its conception and construction of an actual embodiment of that invention. These changes almost invariably better the invention — make it more efficient, smaller, faster, cheaper, etc. Measuring the time from the date an embodiment of the invention is actually made allows these improvements to be described and claimed in the patent application. In addition, insofar as an inventor finds it necessary to continue the process of refining the invention after the actual embodiment is made, it can do so with confidence, since the time when an application must be filed is fixed. Again, these further refinements may be described and claimed in the patent ultimately applied for. As a result, the inventor can better protect the embodiment being marketed, since it is that embodiment which will most likely be reverse-engineered by competitors. Correspondingly, it also promotes disclosure to the public of new technology. The patent, by disclosing the post-conception modifications and improvements to the invention, provides the public a readily available teaching of the most practicable device.

In contrast, measuring when the bar date starts to run based upon an appellate court's perception of "all of the circumstances" makes the determination inherently subjective and uncertain, and results in virtually any effort to create a commercial demand for a proposed new product giving rise to a risk that, years later, a court will find that the patent for that product is invalid. This result is wholly untenable in today's marketplace, where any pause in a firm's pace of innovation spells extinction. For example, a company will often envision what performance it would like its

next-generation product to have — in terms of speed, weight, capacity, cost — and then deliver these specifications to its engineering staff to determine how actually to design a device that meets the performance specifications.

At the same time, due to the pressures of the marketplace, the company will likely announce to the public that it will have that product, on a date certain, and yes, it will be glad to take any orders that come along — despite the fact that no product exists. The innovator *must* do this, since its competitors are doing exactly the same thing, and they will get the orders for the next generation product if the innovator stays silent.

The Federal Circuit's "all of the circumstances" test renders the inventions of the innovator — and their competitor's inventions, made to match or exceed the innovator's own — potentially unprotectable. Under that test, there is no way to insure the inventor that a patent application filed after public announcement of its intentions will be immune from attack for being "on sale", since that depends on "all of the circumstances".[5] *Pfaff*, 124 F.3d at 1433.

The Federal Circuit below has stated that the "foremost purpose of the on-sale bar is 'to prevent inventors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term.' " *Pfaff*, 124 F.3d at 1433 (quoting

5. The Federal Circuit's "all of the circumstances" test in determining whether a sale has occurred is also inconsistent with the Federal Circuit's treatment of attempts to market an inventive concept. In *Hupp v. Siroflex of America, Inc.*, 122 F.3d 1456 (Fed. Cir. 1997), the Federal Circuit held that submission of an inventive idea to a commercial invention development firm, in order to obtain patent services and assistance in developing and marketing the invention, did not constitute an "on sale" event within the meaning of 35 U.S.C. § 102(b). *Id.* at 1461. If marketing an inventive concept is not a sale, consistency requires that there be no sale here also.

Ferag AG v. Quipp Inc., 45 F.3d 1562, 1567-68 (Fed. Cir. 1995)). Even assuming this to be a purpose of the on-sale bar, a matter that is at least questionable[6], we submit that this purpose will not be frustrated by permitting an inventor to complete a device actually embodying the invention, before considering the invention "on sale".

Implicit in this policy assertion is a concern that an inventor will make efforts toward selling the invention, and yet purposefully not complete the actual device in order to defer the time when an application need be filed. Such a concern, however, does not accord with commercial realities. Any enterprise typically will make every effort to produce actual devices as soon as possible, notwithstanding any putative patent law benefits by delaying, since, depending upon the industry, the first to market can have a significant competitive advantage. In addition, it is questionable whether such patent filing could be delayed for any meaningful length of time, for purposes of "exploiting the commercial value" of the invention. The only way any business can really exploit the commercial value of an invention is by making and selling it. Exploiting the commercial value of an invention, in the absence of an actual device to sell, simply cannot continue for any length of time in the real world.

We submit that this policy consideration has little bearing on the actual conduct of the vast bulk of commercial enterprises and inventors. It certainly should not be a basis for supporting an "all of the circumstances" on sale test in view of the uncertainty and inefficiency that such a standard creates.

6. The policy behind barring the filing of patent applications for inventions previously on sale is more basic in nature: to limit patents to those inventions that are new. As to the one-year grace period, that was provided by Congress as an amelioratory provision in favor of the inventor. *Andrews v. Hovey*, 123 U.S. 267, 273 (1887).

The Federal Circuit has also asserted that a policy behind the on-sale bar is to preclude removing inventions from the public which it has come to believe are freely available "as a consequence of prolonged sales activity". *UMC Electronics Co. v. United States*, 816 F.2d 647, 652 (Fed. Cir. 1987) (quoting *General Electric Co. v. United States*, 654 F.2d 55, 61 (Ct. Cl. 1981)). For the reasons described above, it is not clear that this policy will be meaningfully furthered by denying inventors the ability, depending upon "all of the circumstances", to complete a physical embodiment of their invention before deeming it on sale. The public cannot be deprived of something that does not yet exist in tangible form. The Federal Circuit has further asserted that a policy behind the on sale bar is to favor prompt and widespread disclosure of new inventions to the public by compelling the prompt filing of patent applications. *Id.* But creating unpredictability and uncertainty by employing an "all of the circumstances" test is an unreasonable way to further this goal. With a clear definition of when the bar begins to run, the self-interests of the entrepreneur in marketing its products as promptly and widely as possible provides strong incentive for prompt filing of patent applications for new inventions, within the period prescribed by Congress in 35 U.S.C. § 102(b).

CONCLUSION

For the foregoing reasons, this court should reverse the panel decision of the Federal Circuit, and hold that there must be a physical embodiment of an invention for that invention to be on sale within the meaning of 35 U.S.C. § 102(b).

Respectfully submitted,

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IN THE
SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1997

WAYNE K. PFAFF,

Petitioner,

v.

WELLS ELECTRONICS, INC.,

Respondent.

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF AMICUS CURIAE FOR THE PATENT, TRADEMARK & COPYRIGHT SECTION OF THE BAR ASSOCIATION OF THE DISTRICT OF COLUMBIA IN SUPPORT OF AFFIRMANCE

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TREATISE

1 William C. Robinson, *The Law of Patents for Useful Inventions* § 376 (1890) 7

I. AUTHORITY TO FILE

This brief *amicus curiae* is presented by the Bar Association of the District of Columbia under Rule 37.3 of this Court. Letters of consent from the parties are filed herewith.[1]

II. INTEREST OF AMICUS

The Bar Association of the District of Columbia is a voluntary membership nonprofit organization. Membership is not restricted to any segment of the profession and thus the members and their clients represent widely diverging interests and views. Members include attorneys in private practice as well as those employed by corporations and those in government.

The Patent, Trademark & Copyright Section of the Bar Association of the District of Columbia includes members of the bar regularly practicing in and interested in patent law. Members frequently represent applicants for patent before the United States Patent and Trademark Office as well as patent owners and accused infringers. Members are thus concerned with obtaining valid patents as well as with the enforcement of patents and the defense against patent infringement actions.

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[1] No counsel for a party authored any part of this brief. Only *amicus curiae* made a monetary contribution to the preparation and submission of this brief.

In this brief, the Bar Association of the District of Columbia seeks to persuade this Honorable Court that inventors can put their inventions on sale, under the plain meaning of 35 U.S.C. § 102(b), at any time on or after the inventors have a complete conception of their invention. The invention need not exist in a physical, tangible form.

III. QUESTION PRESENTED

In view of the longstanding statutory definition that the one-year grace period to an "on sale" bar can start to run only after an invention is fully completed, should the Pfaff patent have been held invalid under 35 U.S.C. § 102(b) when Mr. Pfaff's invention was admittedly not "fully completed" more than one year before he filed his patent application?

IV. SUMMARY OF ARGUMENT

Section 102(b) of Title 35, United States Code, states, in relevant part, that "[a] person shall be entitled to a patent unless - (b) the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States." Section 102(b) does not require an actual sale, only that the invention be "on sale."

Where an inventor has a complete conception of an invention and the inventor or those acting on behalf of the inventor offer that invention for sale, anyone receiving such an offer would presume the invention to be on sale,

regardless of the existence or nonexistence of a physical, tangible embodiment of the invention. Using the plain meaning of § 102(b), such an offer to sell the invention would place the invention on sale and begin the one year period for filing an application for patent.

The test used by the Federal Circuit in *Pfaff v. Wells Elecs., Inc.*, 124 F.3d 1429 (Fed. Cir. 1997), *cert. granted*, 118 S. Ct. 1183 (1998), that "the appropriate question is whether the invention was *substantially complete* at the time of sale such that there was 'reason to expect that it would work for its intended purpose upon completion,'" establishes an unnecessarily vague test. *See id.* at 1434 (emphasis added) (citations omitted). Nonetheless, the Federal Circuit's determination should be affirmed.

This case presents a narrow fact pattern. This case is distinguishable from a contract to develop an invention, where it is merely the hope of the parties that an invention will result; it is distinguishable from the case where the inventor builds a device and subjects it to experimentation to determine if the hoped-for invention will work; and it is distinguishable from the case where a third party offers an item for sale and the details of that offered item and whether it will work are unclear. Because of the many different fact patterns that can raise the on sale issue, it is a concern of *amicus curiae* that this Honorable Court's decision recognizes that the present case addresses only one of many frequently encountered fact patterns.

V. ARGUMENT

A. THE PLAIN MEANING OF "ON SALE" IN 35 U.S.C. § 102(b) DOES NOT REQUIRE THAT THE INVENTION EXIST IN A PHYSICAL, TANGIBLE FORM

The statute at issue in this case is 35 U.S.C. § 102(b). Section 102(b) states in relevant part: "[a] person shall be entitled to a patent unless - (b) the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States."

> "Where, as here, the resolution of a question of federal law turns on a statute and the intention of Congress, we look first to the statutory language and then to the legislative history if the statutory language is unclear." *Blum v. Stenson*, 465 U.S. 886, 896 (1984). The language of [the statute] is not unclear. Thus, although a court appropriately may refer to a statute's legislative history to resolve statutory ambiguity, there is no need to do so here.

Toibb v. Radloff, 501 U.S. 157, 162 (1991). As in *Toibb*, the language of the statute at issue is clear. The statute asks if "the invention" was placed "on sale" in the United States more than one year prior to the date of application for a United States patent.

The statute does not require that there be a sale of the invention, merely that the invention be offered for sale, *i.e.*, that the invention was placed "on sale." *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860 (Fed. Cir. 1985). The critical question thus becomes: when is the invention so defined that we can determine that it is "the invention" that is being offered for sale.

Petitioner Pfaff suggests that an invention may not be put on sale until "it is reduced to practice and exists in physical, tangible form." Petition for Writ of Certiorari, filed Jan. 5, 1998, at 6 n.1. Such a narrow reading of § 102(b) is contrary to the plain meaning of the statute.

For example, an inventor may have a complete conception of an invention, and even produce an engineering drawing of that invention, yet never build the invention. If a sketch or some brief description of the invention is included in a catalog, along with a price at which the invention is for sale, anyone receiving the catalog would, applying the plain meaning of the term "on sale," understand the invention to be on sale. That the inventor elects not to produce any of the invention until an order is in hand should not alter the conclusion that the inventor has placed the invention on sale.

To conclude otherwise, would also grant the inventor a *de facto* extension of the 20-year statutory term for exploiting the invention. *See* 35 U.S.C. § 154(a)(2). Such an extension would undermine the policies underlying § 102(b), particularly the policy "prohibiting an extension

of the period for exploiting the invention." *King Instrument*, 767 F.2d at 860 (citations omitted).

B. An Invention Can Be On Sale When the Inventor has a Complete Conception of the Invention

In *Pfaff*, the Federal Circuit offers a new test, the "substantially complete" test, to determine if the invention was on sale under § 102(b). *Pfaff*, 124 F.3d at 1434. However, it is not necessary to create a new and somewhat vague test to make this determination.

For an invention to be placed on sale, one must be able to define what constitutes the invention.[2] The patent laws have long recognized that the invention will be so definable when conception is complete.

In 1890, Professor Robinson wrote:

> The conception of the invention consists in the complete performance of the mental part of the inventive act. While this in theory

[2] An inventor may offer a potential purchaser a "new and improved" device even before the inventor has conceived of the device. Under such circumstances it cannot fairly be said that the yet-to-be conceived invention is on sale. While equitable doctrines could be invoked to bar the inventor from applying for and obtaining a patent for the new and improved device more than one year after making such an offer, the offer of such a yet-to-be conceived device should not be a bar under § 102(b) and should not be a bar to others.

> necessarily precedes the physical part or reduction to practice, it in fact also embraces whatever of thought and skill the inventor may have exercised in bringing the invention to that point where reduction to practice can begin. By it inventive genius, so far as it relates to the particular invention, is exhausted; all that remains to be accomplished, in order to perfect the art or instrument, belongs to the department of construction, not creation. It is thus the formation, in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice.

1 William C. Robinson, *The Law of Patents for Useful Inventions* § 376, at 532 (1890). This basic definition was adopted in *Mergenthaler v. Scudder*, 11 App. D.C. 264, 276, 1897 C.D. 724, 731 (1897), which in turn was adopted in *Townsend v. Smith*, 36 F.2d 292, 295 (C.C.P.A. 1929) and by the Federal Circuit in *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985).

Thus, "[c]onception exists when a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented, is known." *Sewall v. Walters*, 21 F.3d 411, 415 (Fed. Cir. 1994).

When conception exists, the inventor can clearly explain the invention to a potential buyer and offer the

invention for sale. There is no need for the inventor to have reduced the invention to practice or to have the invention in a physical, tangible form in order to offer it for sale.[3] Moreover, there is no need for the potential purchaser to have actual knowledge of the invention for it to be on sale. The issue is whether the invention has been placed on sale, *i.e.*, whether the inventor has begun to exploit the invention. *King Instrument*, 767 F.2d at 860.

After there is a complete conception, the invention is clearly defined. From that moment, the inventor can offer to make and sell this clearly defined, completely conceived invention. Under the plain meaning of § 102(b), when this invention is offered for sale, the one year period begins to run. The statute requires no more.

C. Pfaff had a Complete Conception of His Invention and Offered His Invention for Sale More Than One Year Prior to the Date of His Application for Patent

Pfaff "made detailed engineering drawings" of his invention and sent those drawings to a company "for customized tooling and production in February or March of 1981." *Pfaff*, 124 F.3d at 1432. On April 8, 1981, a

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[3] For purposes of proof at trial, "[c]onception must be proved by corroborating evidence which shows that the inventor disclosed to others his 'completed thought expressed in such clear terms as to enable those skilled in the art' to make the invention. *Field v. Knowles*, 183 F.2d 593, 601, 37 CCPA 1211, 1222, 86 USPQ 373, 379 (1950)." *Coleman*, 754 F.2d at 359.

company, unrelated to Pfaff's company, issued a purchase order to Pfaff's company "for 31,100 sockets, which were intended for production use. The purchase order confirmed an earlier verbal order on March 17, 1981. Pfaff filed his patent application on April 19, 1982." *Id.* The arrangement with the purchasing company "was purely commercial, with no experimentation or additional development involved." *Id.* at 1433.

Thus, it appears that in February or March of 1981, more than one year prior to the date of his application for patent, Pfaff had "a definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented." *See Sewall*, 21 F.3d at 415. It was that operative invention that Pfaff offered for sale.

Applying the plain meaning of § 102(b), Pfaff's invention was on sale more than one year prior to the date of application for patent.

This is not a case where there was no offer for sale but merely an experimental use, as in *Elizabeth v. Pavement Co.*, 97 U.S. 126 (1877). *Elizabeth* involved a patent for a method of constructing pavement for a roadway. There, the inventor "believed [his invention] to be a good thing, but he was not sure; and the only mode in which he could test it was to place a specimen of it in a public roadway. He did this at his own expense...." *Id.* at 136. Nor is this a case where a product different from the invention is offered for sale and the inventor later substitutes the invention for the earlier offered product. *See Envirotech Corp. v. Westech Eng'g Inc.*, 904 F.2d 1571

(Fed. Cir. 1990). Nor does this case involve any offers for sale from third parties that could raise issues of proof as to exactly what the third party offered for sale. *Amicus curiae* respectfully submits that this Honorable Court's decision should recognize that the present case addresses only one narrow fact pattern of the many fact patterns that can raise the on sale issue.

VI. CONCLUSION

Under established patent law, there is a complete conception of an invention when the inventor has a "definite and permanent idea of an operative invention, including every feature of the subject matter sought to be patented." *Sewall*, 21 F.3d at 415. The offer for sale of such a completely conceived invention is all that is required to start the one year time period under § 102(b).

Respectfully submitted,

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AMICUS CURIAE

BRIEF

MOTION FILED
MAY 20 1998

(8)

No. 97-1130

IN THE
SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1997

WAYNE K. PFAFF,

Petitioner

v.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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MOTION FOR LEAVE TO FILE BRIEF *AMICUS CURIAE* OUT OF TIME

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27 pp

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for the Federal Circuit.**

UNOPPOSED MOTION TO EXTEND TIME FOR FILING BRIEF

Amicus Curiae Federal Circuit Bar Association, a national organization of approximately 2,200 members who practice before the United States Court of Appeals for the Federal Circuit, respectfully moves for an extension of time to file the attached brief Amicus Curiae in support of the

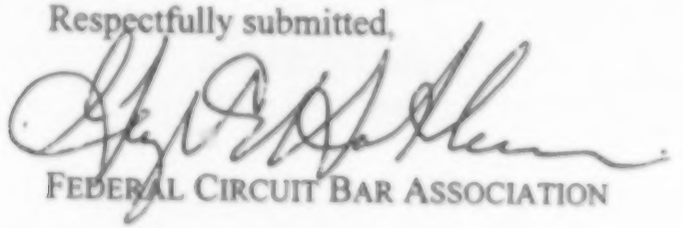
Petitioner. Briefs in support of the Petitioner were due on May 14, 1998. An attorney for Amicus contacted Jerry Selinger, the Counsel of Record for the Petitioner, and James Hall, the Counsel of Record for the Respondent, on May 14, 1998, by telephone. Counsel for both parties stated that they would consent to this motion.

A printer's proof of a version of the attached brief was available on May 14, 1998, and was transmitted on that date by facsimile to the Counsel of Record for the Respondent. An attorney for the Amicus also explained to the Counsel for the Respondent the intended changes to the proof. Accordingly, Amicus submits that no prejudice to either party should result in the granting of this motion.

Collectively, the members of the Amicus represent the owners of thousands of patents and others in the technological community, and have an interest in developing a reliable patent system. Amicus presents this brief to illustrate how the issues of this case impact the technological community. Also, Amicus presents a unique proposal for resolution of the issues, one which serves the purposes of the patent system and the interests of the technological community as a whole. Amicus seeks this extension so that it could properly finalize this proposal.

Given that this motion is unopposed, that Counsel for amicus have taken steps to prevent prejudice to the parties, and that the Respondent has sought for and received an extension of time to file its brief, Amicus respectfully requests that the Court grant this motion.

Respectfully submitted,



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BRIEF OF *AMICUS CURIAE* FEDERAL CIRCUIT BAR ASSOCIATION IN SUPPORT OF PETITIONER

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STATEMENT OF AMICUS CURIAE

The Federal Circuit Bar Association (FCBA) as amicus curiae files this brief in the appeal of *Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429 (Fed. Cir. 1997). Written consent to the filing of this brief has been obtained from the petitioner and the respondent and is being filed herewith.

The FCBA is a national organization comprising of approximately 2,200 members who practice before the United States Court of Appeals for the Federal Circuit. The FCBA offers a forum for common concerns and dialog before the Bar and the Federal Circuit, government counsel and private practitioners, litigators and corporate counsel. Collectively, the members of the FCBA represent and advise owners of thousands of patents, and thus, have an additional interest in developing a reliable patent system as a part of the intellectual property landscape.

Pursuant to Rule 37.6, none of the parties or their counsel have contributed either substantively or monetarily to the preparation of this brief. Specifically, only the amicus, its members and its counsel have made a monetary contribution to the preparation and submission of this brief.

SUMMARY OF ARGUMENT

The Federal Circuit Bar Association submits this brief in support of the Petitioner. The patent law intends to grant a patent applicant a one year window between the time of a first sale of the article for which protection is sought and the filing of his application. The patent statutes, and case law interpreting them, should provide clear guidelines to inventors and patent practitioners, so that they may know with as much certainty as possible the deadline by which valuable patent rights must be claimed. The reality of commerce is that sales and sale activity often take place before an invention is finalized, and in such cases, inventors have need of a reliable standard by which the deadline may be judged. Case law in the last decade, however, has given rise to mounting uncertainty in the application of the statutory on-sale bar. The lower courts have rendered decisions which are contradictory and confusing. There is need of a bright-line test as to the event which begins the running of the one year on-sale bar.

The Federal Circuit Bar Association in this brief urges the Court to return to the standard of reduction to practice with a modification to provide a workable, bright-line test. The reduction to practice standard finds support in historical precedent, is familiar to practitioners, and has with it a significant body of interpretive case law. The proposed standard overcomes the shortcomings of the currently abandoned reduction to practice standard where the invention was required to be on-hand and tested. Under the proposed standard, actual completion of the invention is not required for there to be a reduction to practice. Instead, a form of reduction to practice occurs when an invention is sufficiently described in a tangible form so that one skilled in the art to which the invention pertains can make and use the invention, a standard also well understood and defined in the patent law.

ARGUMENT

I.
A CLEARLY DEFINED STANDARD AS TO THE BEGINNING OF THE RUNNING OF THE ON-SALE BAR SERVES THE PURPOSES OF THE PATENT SYSTEM

The Patent Clause of the United States Constitution authorizes Congress "[t]o Promote the Progress of Science and useful arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries." U.S. CONST. art. I, § 8, cl. 8. In implementing the constitutional mandate through the enactment of the Patent Act, Congress has granted inventors the right to exclude others from making, using, selling, offering for sale, or importing the patented invention for a period of years in exchange for public disclosure of those inventions. *Markman v. Westview Instruments., Inc.*, 116 S. Ct. 1384, 1387 (1996). The patent system balances competing concerns. The grant of a patent encourages innovation and disclosure of useful knowledge because an owner of a patent can make the invention public without it losing its commercial value. Patents also encourage further innovation because the public disclosure becomes the "building block" for improvements and new inventions. *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 151 (1989). Accordingly, to serve the Constitutional purpose, a patent must provide meaningful protection or inventors will choose to keep their inventions secret and impede the development of new knowledge.

Toward this end, Congress has specified the conditions that must be met in order to warrant the grant of patent. A patent may be granted only to one who discovers a new and useful product or process. 35 U.S.C. § 101 (1994). The patent must contain a description of the invention in sufficient detail so

that a person skilled in the art can practice the invention, and the patent must particularly point out and distinctly claim the subject matter that the inventor regards as the invention. 35 U.S.C. § 112 (1994). The invention must not have been obvious to one skilled in the art. 35 U.S.C. § 103 (1994). Also, the invention must not already be in the public domain. 35 U.S.C. § 102 (1994). A lack of a bright-line rule as to this last point, the subject matter of this appeal, makes uncertain whether a patentee's conduct prior to filing of a patent application has in fact put the invention into the public domain, or whether the conduct has begun the running of a statutory bar.

A. The Present Standard Creates Uncertainty as to Whether an Inventor's Conduct has Begun the Running of the On-Sale Bar

The present interpretation of the statutory on-sale bar provision of 35 U.S.C. § 102, *viz.* section 102(b), creates substantial uncertainty in the technological community. Currently, the courts apply a "totality of circumstances" test to determine whether the on-sale bar should preclude patentability. Thus, in making a determination as to whether an invention was "on-sale" for purposes of 35 U.S.C. §102(b), "[a]ll of the circumstances surrounding the sale or offer to sell, including the stage of development of the invention and the nature of the invention, must be considered and weighed against the policies underlying § 102(b)." *Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1433 (Fed. Cir. 1997)(citing *Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544 (Fed. Cir. 1997)).

The totality of circumstances test was first enunciated in *UMC Electronics Co. v. United States*, 816 F.2d 647 (Fed. Cir. 1987). The court was squarely faced with the question of whether reduction to practice before the critical one-year date

was required to invoke the on-sale bar of 35 U.S.C. §102(b). *Id.* at 652. After reviewing the policies underlying the bar, the court concluded that "reduction to practice is not always a requirement of the on-sale bar," *Id.* (relying on *General Electric Co. v. United States*, 654 F.2d 55, 61-64 (Ct. Cl. 1981), for the policies underlying the on-sale bar). The court stated that while "'reduction to practice' is an important analytical tool" for an on-sale analysis, it is but one factor to be considered in applying a "totality of circumstances" test. *Id.* at 656. The *UMC* court acknowledged, however, that the totality of circumstances standard "does not lend itself to formulation into a set of precise requirements . . . ." *Id.* at 656. Indeed, the court noted that the possible circumstances surrounding what would otherwise appear to be commercialization outside the grace period "cannot possibly be enumerated." *Id.* at 656-57. Thus, the court appreciated that it had not formulated "a standard for determining when something less than a complete embodiment of the invention w[ould] suffice under the on-sale bar." *Id.* at 657.

The overwhelming consensus among practitioners has been that the totality of circumstances test provides no single, clearly discernible standard for determining the applicability of the on-sale bar. *See, e.g.*, Janice M. Mueller, *Conception, Testing, Reduction to Practice: When Is It Really On Sale?*, 80 J. PAT. & TRADEMARK OFF. SOC'Y ___, (forthcoming May 1998)("the Federal Circuit's on sale decisions have failed to produce any clear consensus on the extent-of-development issue; the court's view on the degree on 'completion' required has varied from case to case in almost cyclical fashion"). Instead, the commentators have acknowledged that the Federal Circuit's "totality of the circumstances" standard is "inherently uncertain," making "predictability . . . an elusive goal." Edward G. Poplawski & Paul D. Tripoli, II, *The Impact of Federal*

Circuit Precedent on the "On-Sale" and "Public-Use" Bars to Patentability, 44 AM. U. L. REV. 2351, 2390-91 (1995).

The totality of circumstances test must be coupled with the broad array of possibilities for introduction of the invention into the marketplace. For example, one end of the spectrum of the varying stages of development during which an invention may be placed on sale is where inventors test the marketability of their inventive ideas to the relevant market even before the inventive solution to the idea has been fully realized. If the market, or a given player in the market, recognizes the potential of the inventive idea, the inventors may then proceed to complete the invention, perhaps even with the financial assistance of the interested party. Indeed, some of the most dynamic forces in the national economy, such as those embodied in the relationship between start-up companies and venture capitalists, are the epitome of this scenario. When a small company develops an idea that would otherwise be too costly to realize fully on its own, it necessarily has to "sell" its ideas to the market place to gain financial support. In the biotechnology industry, for example, the extremely high cost of obtaining regulatory approval for the introduction of a new drug generally prohibits small biotechnology companies from proceeding without some outside source of capital. The other extreme, of course, is where an invention is not placed in the stream of commerce until after it is completed, "on hand," and fully tested.

Also, some inventions are themselves driven by the competitive forces in the market place. Where a company (or a particular government agency) has a need for a solution to a particular problem but lacks the core competency to design or invent a solution to the problem, it often puts a request for proposals into the relevant stream of commerce. Several competitors in the market place work to develop a solution to

the problem and then submit a bid in response to the request for proposals. The request may require that an actual prototype be submitted with the proposal or may require only detailed specifications that fully sets forth the proposed solution. In either event, the competitive proposal reflects an invention, and the act of submitting the proposal has commercial ramifications. Accordingly, application of the totality of circumstances test to the spectrum described above makes unduly difficult the task of determining when an inventor's conduct has begun the running of a statutory bar.

Given the realities of business and the shortcomings of the totality of circumstances test in determining the beginning of the running of a statutory bar, inventors are unable to approach this issue with an acceptable degree of predictability and comfort. Further, given that the totality of circumstances has a different meaning for many people, the question as to whether a patent is valid under 35 U.S.C. § 102(b) ultimately depends upon the sympathies and prejudices of any one of the hundreds of federal judges that patentees or accused infringers may find themselves before at some unknown time in the future.

B. The Uncertainty in the Present Standard Frustrates the Purposes of the Patent System

In as much as businesses often must begin to commercialize their inventions months before filing a patent application, as discussed above, uncertainty in whether the invention is in the public domain is not a phantom issue. Many of the technologies of businesses seeking patent protection are new, dynamic, and result in the design and sale of products often having life cycles that are very short. Early sales of products are necessary for businesses to grow and compete and patents are necessary for the patentees to stay in business. Businesses wishing to pursue new products must often make

decisions regarding significant initial investments and bring new products swiftly to market. Early market acceptance of a new product provides a very import factor on which to base these decisions. Uncertainty as to whether the early sales will put the product in the public domain may well deter businesses from making such investments and introducing new products or from seeking patent protection in favor of keeping their inventions secret.[1]

Additionally, a bright-line standard as to when an invention is placed in the public domain permits inventors to make effective use of all of their time to file patent applications on their inventions. Uncertainty as to the allotted time for filing a patent application operates to deprive prudent applicants of all of their time in that they instead will choose to file early in order to preserve their rights. The lower courts have recognized that the purposes of the patent system are not served by forcing premature entry into the patent application process upon inventors who are still developing their inventions. *UMC*

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[1] Businesses recognize that uncertainty is a fact of life in the patent process. For example, the doctrine of equivalents introduces a dose of uncertainty as to the scope of patent rights making it difficult for patentees and accused infringers to asses the outcomes of patent infringement suits. Also, patent infringement suits typically involve a counter claim of patent invalidity where accused infringers will spend hundreds of thousands of dollars searching for and analyzing prior art not considered by the Patent Office during its examination of the patent application. Thus, a patentee must often go through trial to determine whether there is an infringement of a valid patent. However, an issued patent has value to the patentee long before it is ever litigated, and the public will derive benefit from the patent disclosure even if the patent is never enforced. But the uncertainty discussed above occurs at the very beginning of the patent process, and impacts decisions on whether to keep the invention a secret or whether to develop a product at all. It is this uncertainty which deprives society of innovation and disclosure and thus frustrates the purposes of the patent system.

Electronics Co. v. United States, 816 F.2d 647 (Fed. Cir. 1987) (Smith, J., dissenting). Additionally, the public interest is not served by a patent system that wastes inventors resources by requiring them to file patent applications before the commercial value of the inventions can be determined, *Aerovox Corp. v. Polymet Mfg. Corp.*, 67 F.2d 860, 862 (2d Cir. 1933) (L. Hand, J.), or by "the waste of Patent Office resources in processing half-baked inventions," *Gould, Inc. v. United States*, 579 F.2d 571, 584 (Ct. Cl. 1978).

Further, in 1992, the U.S. Patent and Trademark Office formed the Advisory Commission on Patent Law Reform from a diverse a group of representatives from businesses, universities, the Patent Bar and the public to assess the state of the patent system. Among its findings, the Commission concluded that the lack of clarity created by the "totality of circumstances" standard was contributing to an erosion in the application of a "cogent, understandable, and predictable fashion" of the principles underlying the on-sale bar. *The Advisory Commission on Patent Law Reform: A Report to the Secretary of Commerce* (1992) (noting that it is "often difficult for the inventor and the courts to determine whether and when an invention has been 'offered' for sale.") The Commission found that "the uncertainty in determining to what extent the invention must be developed before the invention can subject to the 'on-sale' bar" stemmed largely from the fact that the "case law does not provide a consistent standard for determining whether the invention is complete to the degree necessary for the invention to be placed "on-sale.'" The Commission noted that the result of this uncertainty has been twofold. First, the lack of a clear, predictable standard has contributed to the increase in the number of patent cases and the cost of litigating those cases. Second, lack of certainty is an obstacle to the free interaction of ideas and capital that fuels the types of economic growth that characterize the market today.

As in statutes of limitations generally, the start of a statutory bar must be reasonably certain. Congress and this Court have long recognized the need for certainty in this regard. *See, Andrews v. Hovey*, 123 U.S. 267, 274 (1887). The present requirements of substantial completion and totality of the circumstances have interjected a dose of uncertainty in the law which frustrates the purposes of the patent system.

II.
"REDUCTION TO PRACTICE" IS A CLEARLY DEFINED STANDARD THAT IS CONSISTENT WITH 35 U.S.C. § 102

Petitioner's sought-after reduction to practice standard as a bright-line test serves not only to effectuate the policies of the statutory bar but also to make the statutory bar analysis consistent with traditional patent law analysis. "There are no degrees of reduction to practice; either one has or has not occurred." *Wolter v. Belika*, 409 F.2d 255, 262 (C.C.P.A. 1969) (Rich, J., dissenting). Reduction to practice is a term of art now codified in 35 U.S.C. § 102(g) (1994). Under 35 U.S.C. § 102(g), an invention is not made until it is reduced to practice. There is a large and well-reasoned body of case law concerning the concept of reduction to practice. Extensive precedent governs whether an invention has been reduced to practice. The term "reduction to practice" arose out of patent interference practice where the issue to be determined, as between contesting patent applicants, is which applicant was the first inventor. More on point, however, 35 U.S.C. § 102(g), serves to preclude patentability of an invention when some other party already has reduced the invention to practice and has not abandoned, suppressed or concealed it. *E.g., E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1437 (Fed. Cir. 1988). In the latter application, where 35 U.S.C. §

102(g) is used as a bar to patentability much in the same way as 35 U.S.C. § 102(b), sound policy warrants a corresponding and consistent definition of "invention" between the subparts of § 102. Therefore, as long as the reduction to practice standard is not disregarded, it can be uniformly applied by inventors, practitioners, judges and the like to determine whether an inventor's conduct begun the running of a statutory bar.

A. Abandonment of the "Reduction to Practice" Standard Has Led to Inconsistent and Irreconcilable Decisions Regarding the Beginning of the Running of a Statutory Bar

As petitioner Pfaff explains more fully in his brief, the concept of reduction to practice was applied to analysis of the on-sale bar section 102(b) for several decades prior to 1987. Numerous cases predating the establishment of the Court of Appeals for the Federal Circuit show that the regional circuits explicitly required a reduction to practice as an event triggering the on-sale bar. *See, e.g., Timely Products Corporation v. Arron*, 523 F.2d 288, 302 (2d Cir. 1975). The Federal Circuit itself employed the concept of reduction to practice in various early cases, including *King Instrument Corporation v. Otari Corporation*, 767 F.2d 853 (Fed. Cir. 1985), and *Great Northern Corporation v. Davis Core & Pad Company, Inc.*, 782 F.2d 159 (Fed. Cir. 1986). Indeed, the Federal Circuit did not depart from the reduction to practice standard in Section 102(b) until its decision in *UMC Electronics Company v. United States*, 816 F.2d 647 (Fed. Cir. 1987). The return to a reduction to practice standard will restore a measure of certainty to application of section 102(b) and is consistent with the interpretation of "invention" as set forth in section 102(g).

Abandonment of the reduction to practice standard has recently led to numerous inconsistent decisions, troubling for inventors and patent practitioners. In the case of *Seal-Flex v. Athletic Track and Court Construction*, 98 F.3d 1318 (Fed. Cir. 1996) concerning the installation of a high school athletic track, the Federal Circuit rejected the lower court's use of a "sufficiently complete" standard in place of reduction to practice, in part because of the need for experimentation of the running track under actual use conditions, in order to determine whether it was sufficiently durable. As petitioner's brief points out, under the "sufficiently complete" standard, the inventor has no way of knowing "until informed by a judge, at what stage his experimental method became…sufficiently complete to start the time bar to patentability." Petitioner's Brief at 27, citing *Seal-Flex* at 1323.

By contrast, in the opinion below, the Federal Circuit applied a very similar "substantially complete" test to the invention claimed by petitioner herein. The Federal Circuit brushes aside Pfaff's contention that the on-sale bar should not apply because the sockets at issue were not tested prior to the critical date. Likewise, the Federal Circuit ignores Pfaff's testimony concerning the need for cycle testing to establish durability of the sockets, stating that "since durability was not a claimed requirement of the invention, the fatigue testing is irrelevant to the on-sale bar analysis."[2] *Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1439 (Fed. Cir. 1997). The court below concludes that Pfaff's reliance on *Seal-Flex* was inapposite, because while durability of the running track surface

[2] But testing is almost always an element of an actual reduction to practice. It is only in the rare case that a device is so extraordinarily simple that its mere construction is sufficient demonstration of its operability, rendering testing unnecessary. *Sachs v. Watsworth*, 48 F.2d 928 (C.C.P.A. 1931), *quoting Mason v. Hepburn*, 13 App. D.C. 86, 89 (1898).

was "necessary to the efficacy of the invention", the durability of Pfaff's sockets were not a requirement to the substantial completion of Pfaff's invention. But nowhere in the *Seal-Flex* case is there any indication that "durability" was claimed as an element of the patent at issue.

In short, the inconsistencies in the approach taken by the panel in *Seal-Flex*, as opposed to the panel in the decision below, cannot be reconciled. Each of these inconsistencies, however, are the direct progeny of *UMC's* departure from the reduction to practice standard as applied to Section 102(b).

B. The Reduction to Practice Standard Should Include Both "Actual Reduction to Practice" and "Constructive Reduction to Practice"

Notwithstanding the benefits of a consistent definition of "invention," the courts have recognized the difficulties of requiring completion of an embodiment of the invention to begin the running of the statutory bar. Further, the analysis under 35 U.S.C. § 102(g) does not require that the invention be complete and on hand in order for reduction to practice to occur. Instead, the courts have made a distinction between "actual reduction to practice," where the invention is complete and works for its intended purpose and "constructive reduction to practice," which occurs, as often described, when a patent application on the invention is filed. Constructive reduction to practice requires something other than just an application on file. In essence, for constructive reduction to practice to occur each element of the invention must be sufficiently described in a manner which enables one skilled in the art to make and use the invention. Consistent with this practice, and a modification of the standard proposed by the Petitioner, the constructive reduction to practice standard should be incorporated into the analysis under 35 U.S.C. § 102(b) in order to address the

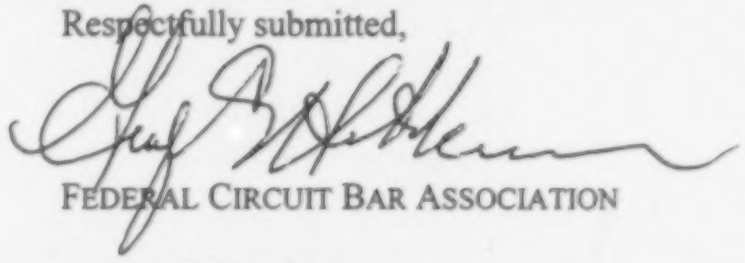
recognized the difficulties of requiring actual reduction to practice to begin the running of the statutory bar. Likewise, a constructive reduction to practice provides a bright-line.

Under the proposed standard, constructive reduction to practice occurs when the inventor has described in a tangible form each element of a claimed invention in a manner sufficient to enable one skilled in the art to which the invention pertains to make and use the invention. These terms are well understood by practitioners and the courts as codified in 35 U.S.C. § 112 (1994) in describing the requirements for the disclosure of the invention in a patent application. The requirement of a tangible description is apt for a bright-line standard. However, a tangible description should not be limited to a written disclosure of the invention. Such items as production schematics and computer-aided (virtual reality) testing should be encompassed by this definition. Also, adoption of the constructive reduction to practice standard would not eliminate altogether the actual reduction to practice standard. Often in chemical compositions, conception of an invention does not occur until the same time as actual reduction to practice. Also, often no significant and enabling description exists until a patent application or the invention is filed. In these circumstances, there is no need for a determination as to when an invention was constructively reduced to practice. Adoption of a constructive reduction to practice standard would provide a much desired bright-line in the determination as to whether an inventor's conduct has begun the running of the statutory bar.

CONCLUSION

For the foregoing reasons, amicus requests that this Court adopt a modified "reduction to practice" standard including constructive reduction to practice as the bright-line standard in the determination of whether a patentees conduct began the running of an statutory bar to a patent grant.

Respectfully submitted,



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In The

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WAYNE K. PFAFF,

Petitioner,

vs.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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BRIEF OF AMICUS CURIAE MAS-HAMILTON GROUP IN SUPPORT OF RESPONDENT

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STATEMENT OF INTEREST

Amicus Mas-Hamilton Group is a Kentucky Corporation having its principal place of business in Lexington, Kentucky. Mas-Hamilton Group is in the business of designing, manufacturing and selling high security electronic locks and related products.

Mas-Hamilton is the owner of numerous patents pertaining to its locks. It relies on its technical innovations to differentiate itself from its competitors, who also own patents in this field. As a result, it is important that Mas-Hamilton be able to assess the strengths and weaknesses of its and its competitors' patent portfolios. Thus, Mas-Hamilton has an interest in developing a predictable and certain patent system. We urge this Court to provide more certainty in the patent system by adopting a rule to be used in conjunction with the "totality of circumstances" test in determining whether there has been barring "on-sale" activity, under 35 U.S.C. §102(b).

Mas-Hamilton files this amicus brief on behalf of respondent, Wells Electronics, Inc.[1] The parties have consented to the filing of this brief and their letters of consent are filed herewith.

SUMMARY OF ARGUMENT

Under 35 U.S.C. §102(b), a patent applicant is entitled to a patent for his invention unless he has placed his invention "on sale" more than one year before filing his application. Whether an invention is "on sale" is determined by the

---

[1] No counsel for a party authored any part of this brief. Only *amicus curiae* made a monetary contribution to the preparation and submission of this brief.

totality of the circumstances. In this Brief, Amicus Mas-Hamilton proposes a new rule to supplement the "totality of the circumstances" consideration. Under this new rule, similar to the presumption created by this Court in *Warner-Jenkinson*, when the patent applicant fails to disclose to the Patent Office, during the prosecution of his patent application, any activity that a reasonable examiner would consider important in deciding whether the activity was a sale or offer for sale under 35 U.S.C. §102(b), it should be presumed that such activity has placed the invention "on-sale". This presumption would apply even if the activity could be considered experimental or pertaining to an invention that has not been completed or reduced to practice. This presumption may be rebutted if the patent owner can establish a reason that the activity in dispute was not "on-sale" activity.

This proposed presumption does not affect the statutory presumption of validity of an issued patent, under 35 U.S.C. §282. It merely shifts the burden of coming forward with evidence to rebut a prima facie case that on-sale activity has occurred. Accordingly, in the absence of evidence to rebut the proposed "on-sale" presumption, the presumption of validity of the patent would either be overcome or more easily rebutted.

ARGUMENT

I. This Court Should Adopt A Presumption To Be Used In Conjunction With The "Totality Of The Circumstances" Test Under 35 U.S.C. §102(b) Similar To The Presumption This Court Adopted For Use With The Doctrine Of Equivalents In *Warner-Jenkinson*.

By agreeing to review another patent case, this Court is afforded the opportunity to inject additional certainty[2] into

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[2] Judge Michel of the Court of Appeals of the Federal Circuit has summarized the dangers of uncertainty in the patent system:

> Although unpredictability is invisible, it pervades our case law and harms not only potential litigants but also others in the same industry. Uncertain litigation outcomes have several ramifications on technological invention. If an invention's patentability is uncertain, individual and corporate inventors alike may elect not to disclose it in a patent application that, under present law, becomes public upon allowance. Instead, they may decide to maintain it as a trade secret. Similarly, if the sustainability of a patent is uncertain, the incentive to file is diminished, if not eliminated. As a result, the benefit of disclosure of the invention, both as something others may make or use (under license) and as a clue to further technological advances, is lost. Even worse, a company assessing uncertain legal outcomes may be sufficiently discouraged from investing in the necessary research -- often costing tens of millions of dollars -- that the invention is simply never made.
>
> The same disincentives, also stemming from uncertainty, plague the patentee's competitor. The competitor must ask, "Can I manufacture my product without infringing another's patent? How can I know in advance?" Even if no reasonable construction of the claims suggests literal infringement, the competitor will still wonder whether the court may nevertheless someday find infringement under the doctrine of equivalents. Unless the competitor finds adequate assurances against liability in an opinion letter from counsel, he may elect not to market a product. The public may thereby be deprived of a significant improvement. Thus, even though the patent law system is supposed to encourage

yet another area of patent law. It continues the work begun in *Markman v. Westview Instruments Co.*[3] and *Warner-Jenkinson, Inc. v. Hilton Davis Chemical Co.*[4]

A. The *Warner-Jenkinson* Presumption.

In *Warner-Jenkinson*, this Court addressed the problem of defining "the proper scope of the doctrine [of equivalents]." 117 S. Ct. at 1045.

> Under this doctrine, a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention.

Id. The scope of equivalents is limited by prosecution history estoppel. *Warner-Jenkinson*, 117 S. Ct. at 1049.

Uncertainty with regard to the scope of a patent claim arises when the record created in the Patent Office during prosecution of the patent application is not complete. *Warner-Jenkinson*, 117 S. Ct. at 1051. This uncertainty

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improvements and "design arounds," the assurance of non-liability must outweigh the risk of liability and related damages or the competitor will cease efforts to offer the public better, or cheaper, devices.

Paul Michel, *A Review of Recent Decisions of the United States Court of Appeals for the Federal Circuit: Introduction: The Challenge Ahead: Increasing Predictability in Federal Circuit Jurisprudence for the New Century*, 43 AM. U. L. REV. 1231, 1241 - 1242 (1994).

[3] *Markman v. Westview Instr. Co.*, 517 U.S. 370 (1996) (clarifying that patent claim construction is a question of law for the court).

[4] *Warner-Jenkinson Co. v Hilton Davis Chem. Co.*, 117 S. Ct. 1040 (1997) (emphasizing the continued existence of the doctrine of equivalents).

often does not become apparent until years after the patent has issued when, for example, a competitor will be required to make business decisions based on his or her understanding of the scope of the patent claim. This understanding is developed from a reading of the patent and a review of the record created in the Patent Office, which is the only information available to the competitor.

To minimize this uncertainty, this Court decided to

> place the burden on the patentholder to establish the reason for an amendment required during patent prosecution. Where no explanation is established, however, the court should presume that the PTO had a substantial reason related to patentability for including the limiting element added by amendment. . . The presumption [this Court has] described, one subject to rebuttal if an appropriate reason for a required amendment is established, gives proper deference to the role of claims in defining an invention and providing public notice, and to the primacy of the PTO in ensuring that the claims allowed cover only subject matter that is properly patentable in a proffered patent application.

Id.

This presumption reduces uncertainty by encouraging patent applicants to create a complete record by including reasons for claim amendments. In this way, the record is more accurate because it is created, while the patent is being prosecuted, by the individual who is in the best position to know the reason for the claim amendment. Under this presumption, where the record is incomplete and the scope of the claims is at issue, the patentee bears the burden of coming forward with evidence of the reason for the change.

B. The Proposed "On Sale" Presumption.

In the same way, this Court is urged, in its consideration of the "on sale" bar to patent validity[5], to again adopt a presumption to fill a gap in the patent prosecution history. Should the patent applicant fail to disclose to the Patent Office during the prosecution of the patent application any activity that a reasonable examiner[6] would consider important in deciding whether the activity was a sale or offer for sale under 35 U.S.C. §102(b), it should be presumed that such activity has placed the invention "on sale". This presumption would apply even if the activity could be considered experimental or pertaining to an invention that has not been completed or reduced to practice. This presumption may be rebutted if the patent owner can establish a reason that the activity in dispute was not "on sale" activity.

This proposed presumption does not affect the statutory presumption of validity of an issued patent, under 35 U.S.C. §282. It merely shifts the burden of coming forward with evidence to rebut a prima facie case that "on sale" activity has occurred. Accordingly, in the absence of evidence to rebut the proposed "on sale" presumption, the presumption of validity of the patent would either be overcome or more easily rebutted.

This "on sale" presumption will introduce additional certainty into this area of the patent law in at least two ways. First, it will encourage creation of a complete record of the

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[5] 35 U.S.C. §102(b) ("A person shall be entitled to a patent unless . . . (b) the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States . . .") *See also, UMC Elect. Co. v. United States,* 816 F.2d 647 (Fed. Cir. 1987).

[6] This standard is the same as that adopted by the Federal Circuit in *LaBounty Mfg., Inc. v. Int'l Trade Comm'n.*, 958 F.2d 1066 (1992).

patent prosecution[7] by the applicant with regard to "on sale" activity. The applicant is the one who is in the best position to know about such activity.[8] Secondly, for those patents that have already issued without a complete record of "on sale" activity, the presumption will serve to place the burden of producing evidence on the party in a better position to know of potential commercial activity that occurred more than one year before the filing of the patent application.

II. The "On Sale" Presumption is a logical extension of the patent applicant's already-existing duty of disclosure.

This "on sale" presumption is a logical extension of the patent applicant's existing duty of disclosure under 37 C.F.R. §1.56:

> A patent by its very nature is affected with a public interest. The public interest is best served, and most effective patent examination occurs when, at the time an application is being examined, the Office is

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[7] "The prosecution of a patent application is conducted outside of the public eye. It is a process during which only the PTO and the inventor communicate with each other to the exclusion of any third party, usually in the form of written correspondence, briefs, etc., but sometimes in face-to-face or telephonic meetings (such oral communications are typically summarized in written form by the examiner, and this written summary also becomes a part of the file). However, once a patent is granted and issued by the PTO, all of the correspondence between the PTO and the inventor is available to the public. The file which comprises such correspondence can be referred to as the "prosecution history" file. Brief of Biotechnology Industry Organization as Amicus Curiae in Support of Respondent, at 14, *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.* 117 S. Ct. 1040 (1997) (No. 95-728).

[8] *See, e.g., Paragon Podiatry Lab., Inc. v. KLM Lab., Inc.,* 984 F.2d 1182, 1193 (Fed. Cir. 1993) ("The concealment of sales information can be particularly egregious because, unlike the applicant's failure to disclose, for example, a material patent reference, the examiner has no way of securing the [sales] information on his own.").

> aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty of disclosure to the Office all information known to that individual to be material to patentability . . . Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; . . .

Thus, disclosing potential "on sale" activity does not impose a new burden on the patent applicant. The obligation of complete disclosure to the Patent Office already exists. By failing to disclose this information during prosecution of the application, the patent owner runs the risk of having to shoulder the burden of producing evidence to overcome the presumption years later.

Like the presumption in *Warner-Jenkinson*, this presumption regarding "on sale" activity does not alter the underlying patent law principle to which it applies. In *Warner-Jenkinson*, the presumption did not change the doctrine of equivalents, it merely

> gives proper deference to the role of claims in defining an invention and providing public notice, and to the primacy of the PTO in ensuring that the claims allowed cover only subject matter that is properly patentable in a proffered patent application.

Warner-Jenkinson, 117 S. Ct. at 1051.

Similarly, the presumption regarding "on sale" activity does not change the "totality of the circumstances" test[9] used by the Federal Circuit to determine whether there is barring "on sale" activity. Rather, it provides public notice and gives deference to the "primacy of the PTO in ensuring that the claims allowed cover only subject matter that is properly patentable."

By encouraging patent applicants to fully disclose <u>all</u> activities during prosecution of the patent, the public will be able to know that the examiner considered whether there was barring "on sale" activity. In addition, the patent examiner will have the benefit of all available information, which he or she otherwise does not have access to, when making the determination of patentability of the claimed invention. As a result, the presumption of validity[10] will be strengthened.

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[9] *See, e.g., MicroChem. v. Great Plains Chem. Co.*, 103 F. 3d 1538, 1541 (Fed. Cir. 1997); *UMC Electronics Co. v. United States*, 816 F.2d 647, 653 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1025 (1988).

[10] An issued United States patent is presumed to be valid. 35 U.S.C. §282. This presumption of validity is based in part on the expertise of the patent examiners. *Brooktree Corp. v. Adv. Micro Devices, Inc.*, 977 F.2d 1555, 1574 (Fed. Cir. 1992). The PTO is entitled to

> the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.

Am. Hoist & Derrick Co. v. Sowa & Sons, 725 F.2d 1350, 1359 (Fed. Cir. 1984); *see also, Fromson v. Adv. Offset Plate, Inc.*, 755 F.2d 1549, 1558 (Fed. Cir. 1985).

III. This Court Has Frequently Adopted Evidentiary Presumptions Supported By Considerations Of Fairness, Public Policy, Probability And Judicial Economy.

"This Court previously has upheld the use of evidentiary presumptions supported by considerations of 'fairness, public policy, and probability, as well as judicial economy." *U.S. Dept. of Just. v. Landano*, 508 U.S. 165, 174 (1993) (quoting *Basic, Inc. v. Levinson,* 485 U.S. 224, 225 (1993)). In the context of the "on sale" bar, each of these considerations is advanced by the proposed "on sale" presumption.

The patent applicant is in the best position to know of any activity that could be considered "on sale activity." The applicant has personal knowledge of any activity. It is fairer that the applicant be burdened with the need to produce evidence than any potential infringer or competitor trying to design around, or defend against, a patent years later.

The proposed presumption supports the public policy of promoting certainty and public faith in the patent system by encouraging full disclosure during patent prosecution. In this way, examiners have the necessary information in front of them as they determine patentability of claims. Furthermore, others reviewing the file history of an issued patent can draw conclusions with more certainty regarding the patent's validity.

Additionally, the proposed presumption, which encourages full disclosure during patent prosecution, results in a more credible record. It is reasonable to conclude that those activities not disclosed may have been barring "on

sale" activities. Self-serving declarations of an inventor during litigation are thereby obviated.[11]

Judicial economy is also served by this presumption. It reduces the number of justiciable issues in a patent dispute. It lessens the likelihood that patent validity, in light of the "on sale" bar, will be challenged. This will promote more streamlined, certain, and cost effective litigation. And it will conserve already scarce judicial resources.

CONCLUSION

For the foregoing reasons, this Court should provide more certainty in the patent system by adopting the foregoing presumption to be used in conjunction with the "totality of circumstances" test in determining whether there has been barring "on sale" activity, under 35 U.S.C. §102(b).

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[11] *TP Lab. v. Prof. Positioners, Inc.*, 724 F.2d 965, 972 (Fed. Cir. 1984), *cert. denied,* 469 U.S. 826 (1984) ("[T]he expression by an inventor of his subjective intent to experiment, particularly after institution of litigation, is generally of minimal value.").

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WELLS ELECTRONICS, INC.,
Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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BRIEF OF THE DALLAS-FORT WORTH INTELLECTUAL PROPERTY LAW ASSOCIATION AS *AMICUS CURIAE* IN SUPPORT OF RESPONDENT

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INTEREST OF THE *AMICUS CURIAE*[*]

Formed in the mid-1950s, the Dallas-Fort Worth Intellectual Property Law Association is a regional association of persons concerned with patent, trademark, copyright, trade secret, and other laws protecting intellectual property rights. The Association is a member of the National Council of Intellectual Property Law Associations.

The Association's members, mostly attorneys, regularly represent clients in patent litigation, advise clients on licensing and other transactional matters involving patents, and represent clients in administrative proceedings before the United States Patent and Trademark Office. The members' clients are split roughly evenly between patent owners and accused infringers. In their role as advisors, the Association's members are regularly called upon to provide opinions on whether particular activities infringe or invalidate patents. The Association's attorney members also represent individuals, universities, and small and large businesses in the trial and appellate stages of patent infringement litigation.

A principal objective of the Association is to advocate improvements in the patent laws and court procedures for administering those laws. To promote that objective, this *amicus curiae* brief sets forth the Association's views on the uncertainties posed by the analysis reflected in the decision below and suggests a solution to minimize those uncertainties while still promoting the policies that give rise to the on-sale provision.

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[*] The parties' letters of consent have been filed with the Clerk pursuant to Rule 37.3. No interested party authored this brief, in whole or in part, or paid any of the costs of producing it.

The Association, as a whole, has no direct interest in any of the parties or the outcome of this lawsuit, except to the extent the outcome affects the overall administration of the patent laws. Although the Association's membership includes counsel for both parties and the special master who rendered the decision from which this case arises, none of these individuals participated in the formulation of the Association's views or the preparation of this *amicus curiae* brief. The views expressed in this brief should not be attributed to any party or counsel, nor should the Association's adoption of these views be used against them.

SUMMARY OF ARGUMENT

For the last ten years, the Federal Circuit has used a generalized, totality-of-the-circumstances test to evaluate the on-sale provision of 35 U.S.C. § 102(b) on a case-by-case basis. While the totality-of-the-circumstances test employed in the decision below satisfies the need for flexible analysis, it is an essentially unfocused analysis that often leads to unpredictable results. Without a definite and comprehensive test, practitioners and lower courts have encountered great difficulty in performing the on-sale analysis with any degree of certainty.

Although a more definite and better articulated test would be beneficial, rigidly requiring an actual reduction to practice before an invention is deemed "on sale," as advocated by the Petitioner, is not the answer. Such an approach fails to support all the policies underlying the on-sale provision. While an actual reduction to practice may be relevant to the on-sale inquiry in many cases, the complete fabrication of the invention is not always required for the commercialization of the invention through a sale. Finally, the actual-reduction-to-practice standard advocated by the Petitioner is subject to easy circumvention by the shrewd inventor who deliberately refuses

to finish the final steps in the assembly of the invention, but simultaneously benefits from significant commercialization of the invention. For these reasons, actual reduction to practice is not the appropriate polestar for navigating the on-sale issues.

On the contrary, the Association suggests the adoption of a comprehensive, yet flexible, three-prong test for the on-sale provision. The proposed test would include consideration of: (1) whether the commercial activities of the patentee and the offeree establish an identifiable sale or offer for sale of the invention more than one year before the filing date, (2) whether the patentee's and offeree's intent and level of business acumen evidence a sale or offer for sale of the invention, and (3) whether the nature and stage of development of the invention indicate that the invention could be sold in a commercial transaction.

Only the first factor in the proposed analysis could be considered outcome determinative because, after all, if no sale or offer for sale activity of the invention is identifiable, then the on-sale inquiry can be answered in the negative. The other two prongs in the analysis should be considered on a sliding continuum where no single fact or factor can be relied upon exclusively to evaluate the on-sale inquiry. By providing a clearly articulated framework for analysis, this comprehensive and flexible approach would lead to more predictable results while effectively promoting the policies underlying the on-sale provision.

ARGUMENT

I. The Federal Circuit's On-Sale Analysis Under the Totality of the Circumstances Is Too Indefinite

The policies underlying the on-sale provision include: (1) discouraging the removal from the public domain of inventions that the public reasonably has come to believe are freely available; (2) favoring the prompt and widespread disclosure of inventions; (3) allowing the inventor a reasonable amount of time following sales activity to determine the potential economic value of a patent; and (4) prohibiting the inventor from commercially exploiting the invention for a period greater than the statutorily prescribed time of one year.[1]

Some early decisions construing the on-sale provision failed to pay appropriate attention to these underlying policies. For instance, *McCreery Engineering Co. v. Massachusetts Fan Co.*, 195 F. 498 (1st Cir. 1912), required that the invention be produced and "on-hand" in inventory before a sale of that invention constituted an on-sale bar. In so holding, the First Circuit in *McCreery* found the on-sale provision "intended by the statute is more or less analogous to a public use, and has regard to actual and completed transactions, and not to agreements which contemplate both a future production and a future transfer of title."[2]

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[1] *Continental Plastic Containers v. Owens Brockway Plastics, Inc.*, 46 U.S.P.Q.2d (BNA) 1277, 1279 (Fed. Cir. 1998) (citing *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860 (Fed. Cir. 1985)).

[2] *McCreery*, 195 F. at 502. *McCreery* was also followed by *Burke Elec. Co. v. Independent Pneumatic Tool Co.*, 234 F. 93 (2d Cir.), *cert. denied*, 241 U.S. 682 (1916), *B.F. Sturtevant Co. v. Massachusetts Hair & Felt Co.*, 124 F.2d 95 (1st Cir. 1941), *cert.* (continued...)

In *Timely Products Corp. v. Arron*, 523 F.2d 288 (2d Cir. 1975), the Second Circuit rejected the *McCreery* "on-hand" requirement, establishing the following criteria for determining whether a product has been placed on sale:

> (1) The complete invention claimed must have been embodied in or obvious in view of the thing offered for sale;
>
> (2) The invention must have been tested sufficiently to verify that it is operable and commercially marketable. This is simply another way of expressing the principle that an invention cannot be offered for sale until it is completed, which requires not merely its conception but its reduction to practice;
>
> (3) Finally, the sale must be primarily for profit rather than for experimental purposes.[3]

In 1984, the Federal Circuit recognized that rigidly requiring an actual reduction to practice of the claimed invention before invoking an on-sale bar — as *Timely Products* was said to have

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[2] (...continued)
denied, 315 U.S. 823 (1942).

[3] *Timely Prods.*, 523 F.2d at 302.

done[4] — often undercuts the very policies the on-sale provision was intended to promote:

> The *Timely Products* standard, while requiring less for "on sale" activity than the "on-hand" test, is, nevertheless, restrictive in that an offer to sell, without the existence of a physical embodiment of what is offered, does not start the running of the time period. It is not difficult to conceive of a situation where, because commercial benefits outside the allowed time have been great, the technical requisite of *Timely Products* for a physical embodiment, particularly for a simple product, would defeat the statutory policy and we, therefore, do not adopt the *Timely Products* test as the answer in all cases.[5]

For similar reasons, in *UMC Electronics v. United States*, 816 F.2d 647 (Fed. Cir. 1987), the Federal Circuit invalidated the patent-in-suit under the on-sale provision of § 102(b) even

[4]The Second Circuit in *Timely Products* did not require a complete reduction to practice of the invention as exactly claimed in the subsequently-issued patent, but considered a reduction to practice of an obvious modification of the claimed subject matter to support on-sale bar activity. *Timely Prods.*, 523 F.2d at 302 (finding the reduction to practice of a device not covered by the '965 patent to be a sufficient reduction to practice of the '965 patent because the embodiment constituted an obvious variation of the claimed subject matter).

[5]*Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd.*, 731 F.2d 831, 837 (Fed. Cir. 1984). Although the *Barmag* court distinguished the *Timely Products* fully-complete standard, the court adopted the analysis of the trial court which used the *Timely Products* analysis in granting a summary judgment of invalidity.

though there had not been an actual reduction to practice of a completed invention.[6]

The Federal Circuit rejected the *McCreery* on-hand and *Timely Products* actual-reduction-to-practice requirements because they are often at cross purposes with the policies underlying the on-sale provision. The Federal Circuit, however, refused to establish an definite analysis for evaluation of the on-sale provision. Under *UMC Electronics* and its progeny, the Federal Circuit's on-sale analysis requires a consideration of "[a]ll of the circumstances surrounding the sale or offer to sell, including the stage of development of the invention and the nature of the invention, [which] must be considered and weighed against the policies underlying section 102(b)."[7]

[6] *See also General Elec. Co. v. United States*, 654 F.2d 55 (Ct. Cl. 1981) (suggesting no actual-reduction-to-practice requirement is supported by underlying policies of the on-sale provision).

[7]*UMC Elecs. Co. v. United States*, 816 F.2d 647, 656 (Fed. Cir. 1987); *see Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544 (Fed. Cir. 1997); *Pfaff v. Wells Elecs., Inc.*, 124 F.3d 1429, 1433 (Fed. Cir. 1997). At most, the Federal Circuit has provided only the standard for a *prima facie* case of an on-sale bar as: (1) a definite sale or offer for sale must exist more than one year before the filing date, and (2) the subject matter of the sale or offer to sell must fully anticipate the claimed invention or render the claimed invention obvious by addition to the prior art. *See UMC Elecs.*, 816 F.2d at 656. This *prima facie* standard, however, provides little more than what is gleaned from a direct reading of the statute.

The Federal Circuit justified the adoption of this generalized case-by-case approach because:

> While a wide variety of factors may influence the on-sale determination, no single one controls the application of section 102(b), for the ultimate conclusion depends on the totality of the circumstances.[8]

The Federal Circuit also justified its avoidance of a focused analysis because "rigid standards are especially unsuited to the on-sale provision where the policies underlying the bar, in effect, define it."[9]

As inventors, patent attorneys, commentators, and commercial interests confirm,[10] the present totality-of-the-circumstances test fails to provide lower courts and practitioners with a definite national standard for evaluation of

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[8] *Ferag AG v. Quipp Inc.*, 45 F.3d 1562, 1566 (Fed. Cir. 1995).

[9] *UMC Elecs.*, 816 F.2d at 653 (quoting *T.P. Lab. Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 973 (Fed. Cir. 1984) (public use), *cert. denied*, 469 U.S. 826 (1985)).

[10] Edward G. Poplawski & Paul D. Tripoli, II, *The Impact of Federal Circuit Precedent on the "On-Sale" and "Public Use" Bars to Patentability*, 44 Am. U. L. Rev. 2351, 2390-91 (1995) (acknowledging that the totality-of-the-circumstances standard is "inherently uncertain" making "predictability . . . an elusive goal"); *The Advisory Commission on Patent Law Reform: A Report to the Secretary of Commerce* (1992) (finding that the indefinite totality-of-the-circumstances standard was contributing to an erosion in the application of the underlying principles of the on-sale analysis); *see also* Janice M. Mueller, *Conception, Testing, Reduction to Practice: When Is It Really On Sale?*, 80 J. Pat. & Trademark Off. Soc'y 305, 317 ("Until the Supreme Court provides further guidance, however, patent practitioners must deal with an indeterminate *status quo*.").

the on-sale provision of 35 U.S.C. § 102(b). Because the totality-of-the-circumstances test provides little, or no, guidance to the lower courts and practitioners, a more definite and focused on-sale analysis is necessary to promote greater predictability in this area of the law. A comprehensive and understandable test is needed by practitioners who provide the public with legal advice regarding on-sale patent law issues because most real-world legal issues are resolved by lawyers' advice without resort to litigation.[11] Further, a comprehensive and definite on-sale analysis will enable lower courts to render decisions with increased opportunities for affirmance.

Although the Federal Circuit's unique character[12] warrants allowing that court to formulate detailed legal tests on patent-law issues, this Court has recognized that it is appropriate to lay down guiding principles where the Federal Circuit's efforts have not led to a sufficiently focused analysis. For instance, in *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 117 S. Ct. 1040, 1054 (1997), this Court found some aspects of the Federal Circuit's approach to the doctrine of equivalents were too indefinite and set forth a general framework to provide additional focus. After providing this framework, this Court left the detailed implementation of the test to the Federal Circuit's "sound judgment in that area of its special expertise."[13] In light of the Federal Circuit's failure to establish a workable, comprehensive on-sale analysis for the last ten

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[11] *Cf. Hickman v. Taylor*, 329 U.S. 495, 514-15 (1947) (Jackson, J., concurring) (observing that their advisory roles make "the lawyer and law office . . . indispensable parts of our administration of justice").

[12] *See generally* H.R. Rep. No. 97-312, at 20, 23 (1981); *see* Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25.

[13] *Warner-Jenkinson Co.*, 117 S.Ct. at 1054.

years, this Court should provide the same type of guidance in the form of a multiple-prong test.

II. Although It Is More Definite, the Actual-Reduction-to-Practice Standard Advocated by the Petitioner Is Poorly Suited to Support the Underlying On-Sale Policies

Like the earlier decisions analyzing the on-sale provision, the actual-reduction-to-practice standard advocated by the Petitioner fails to promote the underlying on-sale policies of 35 U.S.C. §102. The on-sale policies focus on the impact of the commercialization of the invention including discouraging the removal of inventions which the public has come to believe are freely available through sale, favoring the prompt disclosure of inventions, and prohibiting commercial exploitation of the invention beyond the statutorily prescribed patent term. The actual-reduction-to-practice standard, on the other hand, would focus on whether the invention has been completely fabricated. While a complete fabrication of the invention may demonstrate a capability to commercialize the invention through sale, the policies of the on-sale provision may be implicated long before the invention is completely fabricated down to the last nut and bolt.[14]

Commercialization and complete fabrication of the invention may occur simultaneously, but there are no guarantees that

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[14]For example, a patentee often commercializes an invention by selling the key components of the product, allowing the customer to add the final components to complete the system defined by the patent's claims. Although such a sale would be a contributory infringement within the patent's scope of protection, 35 U.S.C. § 271(c), it would not trigger the on-sale provision under the test advocated by Petitioner.

these activities must occur at the same time or in any particular order. In fact, the Northern District of Illinois has noted:

> Sometimes the ordinary course of commerce entails genuine sales of prototypes or even of concepts. In many industries -- military aviation being a prime example -- commercial sales occur while the items are still being developed. The vendor sells the germ of an idea and works out the bugs later, often in cooperation with the principal customer. Revenues flow in, and knowledge that the developer will seek a patent discourages rivals from investing in what may be expensive work along the same lines. Treating such sales as "real" sales for purposes of Section 102(b) is sensible, for that is the way the market works.[15]

Because the absence of a complete fabrication of the invention will not preclude a sale of the invention, an actual reduction to practice cannot be viewed as a necessary predicate for commercialization of the invention. A bright-line test should not be based upon a factor which is sometimes relevant to the analysis, but not always necessary to invoke the rule. Because there is no necessary predicate relationship between the complete fabrication of the invention and the commercialization of the invention, an actual reduction to practice is not the appropriate bright-line standard to analyze the on-sale provision.

The actual-reduction-to-practice standard, as advocated by the Petitioner, also ignores the sale or actual reduction to practice of obvious modifications to the claimed subject

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[15]*In re Mahurkar Patent Litig.*, 831 F. Supp. 1354, 1370 (N.D. Ill. 1993).

matter.[16] That is, an actual reduction to practice of the invention would require the fabrication of the invention as claimed exactly in the subsequently-issued patent.[17]

Further, under the Petitioner's actual-reduction-to-practice standard, a shrewd inventor could easily circumvent the on-sale bar by performing all but one insignificant step in the complete fabrication of the invention while simultaneously reaping the benefits of broad commercial activities. The inventor would be allowed to market a less-than-complete embodiment of the invention without consequence as long as the final steps in the reduction to practice were not completed. This type of conduct on behalf of the inventor would effectively lengthen the patent monopoly beyond its statutory limits.

As this hypothetical situation illustrates, a bright-line test based upon an actual-reduction-to-practice standard is inappropriate because such a standard can be used to circumvent the underlying policies of the on-sale provision. While the actual-reduction-to-practice standard may provide predictability in the form of a bright-line test, this predictability comes at the cost of abandoning full support for the underlying on-sale policies.

If there is unpredictability in the present on-sale analysis, the reason for this unpredictability is the indefinite totality-of-the-circumstances test as a whole — not the absence of an actual-reduction-to-practice standard. Predictability would be

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[16] *See UMC Elecs.*, 816 F.2d at 655-57.

[17] Of course, if a key part of the invention has yet to be developed and is entirely missing, the subject matter may not be complete enough to constitute an on-sale bar activity. *See Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538 (Fed. Cir. 1997).

enhanced by a focused analysis for the entire on-sale determination, rather than a bright-line actual-reduction-to-practice analysis which fails to honor the underlying policies of 35 U.S.C. §102(b).

III. A More Specific, Multiple-Prong Analysis Would Promote Greater Predictability and the Underlying On-Sale Policies

Under the proposed on-sale analysis, three areas of inquiry should be considered: (1) the commercial activities of the parties, (2) the intent and business acumen of the parties, and (3) the nature and development of the invention when sold or offered for sale. Based upon the underlying policies of the on-sale provision in 35 U.S.C. § 102(b) and precedent interpreting the on-sale provision, the proposed test provides flexible guidelines for the on-sale analysis. With this general framework, the Federal Circuit's refinement of the on-sale analysis would be greatly enhanced.

A. Do the Commercial Activities of the Patentee and the Offeree Establish an Identifiable Sale or Offer for Sale of the Invention More Than One Year Before the Filing Date?

The first prong in the proposed inquiry focuses upon any commercialization efforts through an identifiable sale or offer for sale of the invention. This commercialization inquiry should focus on whether an "invention" has been placed on-sale more than one year before the filing date. The "invention" in this context is the claimed invention or an obvious variation thereof.[18] Accordingly, something less than, or slightly

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[18] *UMC Elecs.*, 816 F.2d at 655-57.

different from, the invention as claimed in the subsequently-issued patent should be considered in any on-sale analysis.

The "inventor's attempted exploitation must be objectively manifested as a definite sale or offer to sell the invention."[19] Objective evidence of an actual sale or offer for sale could include the contract between the patentee and the offeree, if there is one, or offers, counter-offers, rejections and other correspondence, if not. Documentary evidence would include contracts, invoices, purchase orders, quotations, order confirmations or drafts of these documents. Evidence of detailed negotiations may also support the existence of a sale or offer for sale. The more specific the negotiations or documentary evidence, the more likely an identifiable sale or offer for sale can be proven in any given case.

This prong in the analysis (unlike the second and third proposed prongs) would be outcome determinative of the on-sale analysis because, if no sale or offer for sale of the invention can be identified, then the on-sale inquiry should be answered in the negative. Assuming the first prong of the analysis has been met, however, the other two prongs in the analysis should be considered on a continuum where no one fact or factor is dispositive.

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[19]*Ferag AG*, 45 F.3d at 1568.

B. Do The Patentee's and Offeree's Intent and Level of Business Acumen Evidence a Sale or Offer for Sale of the Invention?

The second prong in the proposed analysis focuses upon the intent and business sophistication of the parties. The intent of the parties, while not sufficient to support a finding of on-sale activity by itself, is a relevant consideration.[20]

As with all the other factors considered in this analysis, objective evidence of the parties' intent should be considered. Objective evidence of intent may be found in contracts, confidentiality agreements or research and development agreements. Because numerous reasons may support the activities of the parties, this objective evidence may demonstrate the inventor's desire to conduct experiments with the invention, withhold the invention from the public domain, or commercialize the invention through a sale to another.[21] The subjective intent of the parties should be considered where it does not contradict the expression of intent in clear and unambiguous documentary evidence such as a contract. Corroborating evidence may be helpful in preventing after-the-fact expressions of intent made solely to support a particular legal position in litigation.

The business sophistication of the parties should also be considered to determine whether the parties had the capability

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[20]*Ferag AG*, 45 F.3d at 1568.

[21]The experimental-use exception may preclude a finding of an on-sale bar activity even in the presence of commercial exploitation of the invention, but the commercial exploitation must be merely incidental to the primary purpose of experimentation to perfect the invention. *Barmag*, 731 F.2d at 839 (citing *In re Theis*, 610 F.2d 786, 793 (C.C.P.A. 1979)).

to contract for the sale of the invention or conduct experimental development according to a research and development contract. For example, a patentee who is a sole inventor may lack the resources and business skill available to the inventor employed by a large enterprise. In that situation, it may be appropriate to impute slightly less knowledge about the consequences of commercial activities so the sole inventor is not penalized for her lack of resources or business skill. By fully understanding the parties' intentions and business sophistication, the court can better understand the true nature of the parties' actions and whether they run afoul of the principles underlying the on-sale provision.

C. Is the Invention of a Nature and Stage of Development Such That It Could Be Sold in a Commercial Transaction?

Finally, the on-sale analysis should focus on whether the invention could be considered complete enough to be the subject matter of a commercial sales transaction. Focusing on the subject matter of the sale, the "invention" should be understood as the claimed invention or any obvious modification.[22] Under this prong, the nature of the invention should be considered, followed by a determination of the invention's actual stage of development when sold or offered for sale. Both factors should be considered on a continuum to determine if the subject matter of the commercial transaction would work as intended.

The nature of the invention should consider the background technology of the invention. While an invention in one technology area may be realized almost entirely from the drawing board, an invention in another technology area may

[22]*See* discussion *supra* Part III. A.

require extensive testing to determine whether it will work as intended. This inquiry recognizes that an invention in a relatively simple technology area can be realized, and sold, without extensive testing or an actual reduction to practice of the completed invention. Accordingly, the technological complexity of the invention should be evaluated.

Another part of the third prong in the proposed analysis is a determination of the actual stage of development of the invention. The invention should be more than a mere unformulated conception, and a qualitative assessment of the invention's stage of development should be conducted to determine whether the invention is complete enough to be the subject matter of a commercial transaction.

All technical documentation and evidence should be considered in this qualitative assessment, including the existence and content of inventor's notebooks, inventor sketches, technical memoranda, and schematic diagrams. Testing results may also be relevant in demonstrating an ability to sell the invention, but the existence or absence of testing should not be viewed as a controlling fact.[23] Common business and industry practice may also be relevant, as it was in this case.[24] An actual reduction to practice, while not necessary, may also constitute sufficient evidence of the inventor's ability

[23]*See Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1578 (Fed. Cir. 1996) ("[s]ome inventions are so simple and their purpose and efficacy so obvious that their complete construction is sufficient to demonstrate their workability."); *In re Asahi/America, Inc.*, 68 F.3d 442, 445 (Fed. Cir. 1995) (same).

[24]*Pfaff*, 124 F.3d at 1434-35 (considering business practices of going directly to production tooling from drawings and the industry practice of functionality and fatigue testing).

to commercialize the invention at that time.[25] Accordingly, all facts relevant to the inventor's ability to make the invention perform as intended, including the nature of the invention and the actual stage of development, should be considered in the third prong of the proposed analysis.

CONCLUSION

To promote predictability, a more definite on-sale analysis under 35 U.S.C. §102(b) is necessary than reflected in the decision below. The proposed analysis should promote the policies underlying the on-sale provision and provide guiding principles for the on-sale evaluation.

Respectfully submitted,

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[25] *UMC Elecs.*, 816 F.2d at 656 (finding that an actual reduction to practice, if present, can be an important analytical tool).

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In The

Supreme Court of the United States

October Term, 1997

WAYNE K. PFAFF,

Petitioner,

vs.

WELLS ELECTRONICS, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF AMICUS CURIAE VIEW ENGINEERING, INC. IN SUPPORT OF RESPONDENT

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CONSENT OF PARTIES

Petitioner and respondent have consented to the filing of this brief, *amicus curiae*.[1]

STATEMENT OF INTEREST

View Engineering, Inc. ("View") submits this amicus curiae brief because View has an interest in the Court's resolution of the issues raised in this case. View is a defendant in a case captioned *Robotic Vision Systems, Inc. v. View Engineering, Inc. and General Scanning, Inc.*, Case No. 95-7441, United States District Court for the Central District of California. In March, 1996, the District Court granted View's motion for summary judgment of invalidity under the on-sale bar. *Robotic Vision Systems, Inc. v. View Engineering, Inc.*, 39 U.S.P.Q. 2d 1167 (C.D. Cal. 1996). On appeal, the United States Court of Appeals for the Federal Circuit vacated the summary judgment because of questions of fact as to when the claimed invention was "substantially complete." *Robotic Vision Systems, Inc. v. View Engineering, Inc.*, 112 F.3d 1163, 1168-69 (Fed. Cir. 1997).

SUMMARY OF ARGUMENT

Under the "on sale bar" of 35 U.S.C. § 102(b), a person is not entitled to a patent if "the invention was . . . on sale in this country more than one year prior to the date of the application for patent in the United States." The plain meaning of this "on sale bar" is that when an inventor or a third party puts subject

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1. Their consents have been filed with the clerk of this Court. This brief was authored by the amicus and counsel listed on the front cover hereof, and was not authored in whole or in part by counsel for a party. No one other than the amicus and their counsel made any monetary contribution to the preparation or submission of this brief.

matter on sale in this country more than a year before the inventor files his patent application, that subject matter is prior art to that application or any resulting patent. If the subject matter of the on sale activity — i.e, the thing offered for sale or sold — contains all the elements of the claimed invention, the patent claim that defines that invention is unpatentable for lack of novelty and, if already issued, invalid. If not anticipatory, the subject matter of the on sale activity is still prior art, and may be used in an obviousness analysis.

Inventors control their own destiny under the on sale bar. They can avoid the on sale bar by merely filing their patent applications within the one year grace period after placing their invention on sale. The law further protects inventors through the longstanding experimental use "exception" to the on sale bar. This doctrine protects inventors by negating the on sale bar where the on sale activity was conducted by the inventor or one under his control or direction primarily for the purpose of determining whether the invention will work for its intended purpose.

There is no dispute in this case that more than one year before he filed for his patent, Petitioner offered for sale over 30,000 devices embodying his claimed invention. Petitioner nonetheless argues that this admittedly commercial, production-quantity offer did not place his invention on sale because Petitioner had not created a physical sample of the device; he had not reduced it to practice. Petitioner and supporting amici argue that the proposed reduction to practice standard is required by the statutory language, the legislative history, and the need to protect inventors with a bright-line rule. All three of these arguments are incorrect.

Petitioner's statutory construction argument centers on the presence of the term "invention" in section 102(b) and its alleged

definition in 102(g). The term "invention" is not defined in section 102(g), or any other part of the Patent Act, to implicitly incorporate a reduction to practice. On the contrary, every subsection of section 102, including subsections 102(g) and 102(b) itself, uses "invention" to include subject matter that has *not* been reduced to practice. Under section 102(g), a prior invention is effective before it is reduced to practice. Under section 102(b), an "invention . . . described in a printed publication in this or a foreign country" is prior art even though it necessarily is not in a physical, reduced to practice form.

Petitioner's "legislative history" arguments amount to nothing more than passing references to a completed invention in this Court's *Andrews v. Hovey* decision and in the legislative history for the 1939 Patent Act. Neither the *Andrews* nor the 1939 history, however, even addressed, let alone decided, that a reduction to practice is required for the on sale bar.

Finally, Petitioner and supporting amici argue on policy grounds that a reduction to practice standard benefits inventors who need time to test their inventions. This "need," when it arises, is already addressed by the experimental use doctrine, which provides inventors the opportunity to test where necessary.

There is no basis for requiring a reduction to practice before subject matter offered or sold for commercial purposes can become prior art.

ARGUMENT

I.

PETITIONER'S REDUCTION TO PRACTICE STANDARD FINDS NO BASIS IN THE ON SALE BAR STATUTE.

A. Section 102(g) Neither Defines "Invention" Nor Requires Reduction To Practice.

Petitioner's statutory construction argument is based on the false premises that section 102(g) of the patent statute defines "invention" and that that definition requires reduction to practice. Section 102(g) does not define "invention" at all. If "defined" anywhere, that term is defined in 35 U.S.C. § 100(a) as "invention or discovery." Section 102(g) merely states that reduction to practice must be considered in "determining priority of invention."[2] 35 U.S.C. § 102(g); *see also* S. Rep. No. 1979, 82nd Cong., 2d Sess. (1952) ("Subsection (g) relates to the question of priority of invention between rival inventors").

B. Petitioner's Reduction To Practice Requirement Would Cause Conflict With Other Portions of Section 102.

Not only does Petitioner's statutory construction argument find no support in section 102(g), but it ignores the fact that

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2. Under section 102(g), reduction to practice is not even dispositive for determining priority of invention. Under the second sentence of that section, the first among rival inventors to conceive the invention — even though last to reduce the invention to practice — is the first inventor if he is diligent in reducing the invention to practice. *See also Marconi Wireless Tel. Co. v. United States*, 320 U.S. 1, 34 (1943) ("as between two inventors priority of invention will be awarded to the one who by satisfying proof can show that he first conceived of the invention").

the term "invention" is used throughout section 102 of the patent statute, even in section 102(b) itself, in a way that precludes the reduction to practice requirement. Section 102 contains several subsections that define what is "prior art," a term that refers generally to subject matter that is in the public domain, and therefore unpatentable. *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1453 (Fed. Cir. 1984). These are subsections (a), (b), (e), (f) and (g).[3] *Oddzon Products, Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1401-1404 (Fed. Cir. 1997).

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3. Those sections of section 102 state:

§ 102 Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless —

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

* * *

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent, or

(Cont'd)

Each of these subsections defines subject matter that may be prior art before and/or without being reduced to practice. Subsections (a) and (b) include patents and printed publications as prior art. These documents are prior art irrespective of any actual reduction to practice of the thing patented or described. *See In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985) (subject matter described in a prior publication qualifies as prior art even if that subject matter was not physically made). Likewise, a United States patent application under section 102(e) is a prior art document whether or not there exists a physical embodiment of the thing described. *Alexander Milburn Co. v. Davis-Bournonville Co.*, 270 U.S. 390, 400-401 (1926) (an earlier patent application need not be reduced to practice to qualify as prior art).

So too, subject matter derived from another is prior art under section 102(f) even if the derived subject matter was not reduced to practice: "To show derivation, the party asserting invalidity must prove both prior *conception* of the invention by another and communication of that conception to the patentee." *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1576 (Fed. Cir. 1997) (emphasis added). Finally, a prior invention under 35 U.S.C. § 102(g) is prior art as of the date of *conception*, not the date of reduction to practice,

(Cont'd)

> (f) he did not himself invent the subject matter sought to be patented, or
>
> (g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

assuming the prior invention was diligently reduced to practice. *Mahurkar v. C. R. Bard, Inc.*, 79 F.3d 1572, 1577 (Fed. Cir. 1996).

Petitioner admits that "identical words used in different parts of the same act are interpreted to have the same meaning," quoting *Sullivan v. Stroop*, 496 U.S. 478, 484 (1990), and *Sorenson v. Secretary of Treasury*, 475 U.S. 851, 860 (1986). The term "invention" in section 102(b) cannot silently incorporate a reduction to practice requirement for the on sale bar when it is undeniable that the term is used throughout section 102 to identify subject matter that qualifies as prior art without being reduced to practice. Even within section 102(b) itself, as explained above, the term "invention" relates to prior patents and printed publications that need not be reduced to practice to qualify as prior art. *See Alexander Milburn*, 270 U.S. at 400-401; *Donahue*, 766 F.2d at 533. Petitioner cannot justify its attempt to assign two meanings to the same word within the same subsection.

C. Petitioner's Reduction To Practice Standard Would Result In Inconsistent Treatment Of Different Forms Of Prior Art.

Application of Petitioner's reduction to practice requirement to the on sale bar would create indefensible inconsistency between treatment of activities as prior art under section 102(b). For example, in this case, there is no dispute that Petitioner created a detailed description of the product that he offered for sale in this country more than a year before filing his patent application. If Petitioner had at the time published this same detailed description in a foreign language in a foreign country that publication would constitute prior art under section 102(b) ("described in a printed publication in this or a foreign country"), regardless of whether Petitioner had reduced his invention to

practice. *See In re Carlson*, 983 F.2d 1032, 1038 (Fed. Cir. 1992); *In re Hall*, 781 F.2d 897, 900 (Fed. Cir. 1986). The same result should apply to Petitioner's offer for sale here in this country.

This same inconsistency results from the "substantially complete" requirement that the Federal Circuit has applied. *See Robotic Vision.*, 112 F.3d at 1167; *Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1545 (Fed. Cir.), *cert. denied*, 117 S. Ct. 2516 (1997). In *Robotic Vision*, there was no dispute that the claimed method was described in the correspondence between the patentee and its customer, that the offer was made outside the grace period exclusively for commercial purposes, and that at the time of the offer the equipment offered for sale would have been fully complete but for computer software, the writing of which was a routine matter for a person of ordinary skill in the art. 112 F.3d at 1168. If the method as described in the offering correspondence had been described in a printed publication in a far away land, it would have been prior art under section 102(b). However, because the description of the claimed method was part of a commercial offer in the United States, the Federal Circuit vacated the district court's summary judgment of invalidity under the on sale bar because it was disputed whether the software was substantially completed. *Id.* at 1269. The "substantially complete" requirement, like Petitioner's reduction to practice requirement, finds no basis in the statute and creates inconsistency between treatment of activities as prior art under the same section of the statute.[4]

4. Courts and commentators have long been careful to distinguish between perfecting an invention (completing or reducing the invention to practice) and perfecting a device embodying the invention (an activity irrelevant to reduction to practice). *American Hide & Leather Splitting & Dressing Mach. Co. v. American Tool & Mach. Co.*, 1 F. Cas. 647, 655 (1870) (No. 302); 1 William C. Robinson, *The Law of Patents for Useful Inventions* § 129 (1890). The Federal Circuit in *Robotic Vision* lost sight of this distinction.

D. Subject Matter Placed On Sale Should Be Treated Like Other Forms of Prior Art: It Is Prior Art For Whatever It Teaches.

Two issues arise whenever one contends that the invention of a patent claim is invalid based on prior art. The first issue is whether the subject matter asserted as prior art is in fact prior art under 35 U.S.C. § 102(a), (b), (e), (f) or (g), which for the on sale bar requires determination of whether that subject matter has been placed on sale in this country more than a year before the inventor filed his patent application. The second issue is whether, assuming the subject matter is prior art, that subject matter includes all of the elements of the claimed invention (invalidating it under 35 U.S.C. § 102) or whether that subject matter, in combination with other prior art, renders the claimed invention invalid for obviousness under 35 U.S.C. § 103.

The patent claim should be invalid under the on sale bar whenever subject matter commercially offered or sold includes all of the elements of the claimed invention. *Seal-Flex, Inc. v. Athletic Track & Court Const.*, 98 F.3d 1318, 1322 (Fed. Cir. 1996) (Bryson, J., concurring) ("the language and policies of the statute are best captured by the following rule: if the sale or offer in question embodies the invention for which a patent is later sought, a sale or offer to sell that is primarily for commercial purposes and that occurs more than one year before the application renders the invention unpatentable"); *J.A. LaPorte, Inc. v. Norfolk Dredging Co.*, 787 F.2d 1577, 1583 (Fed. Cir. 1986) ("our precedent holds that the question is . . . whether the sale relates to a device that embodies the invention"); *see generally* William C. Rooklidge, *Application of the On Sale Bar to Activities Performed Before Reduction to Practice*, 72 J. Pat. & Trademark Off. Soc'y 543 (1990).

Subject matter placed on sale should be treated like every other form of prior art. When prior art patents and printed

publications fail to disclose every element of the claimed invention, they are not discarded as incomplete, or wholly ignored because they have not been "reduced to practice." On the contrary, they are treated as prior art for what they teach and may be combined with other forms of prior art to determine whether the claimed invention is invalid for obviousness in view of the combined prior art. *Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991) ("While a reference must enable someone to practice the invention in order to anticipate under section 102(b), a non-enabling reference may qualify as prior art for the purpose of determining obviousness under section 103."); *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989) ("Even if a reference discloses an inoperative device, it is prior art for all that it teaches"); *Reading & Bates Constr. Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 652 (Fed. Cir. 1984). Indeed section 103(a) specifically mandates:

> *A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title,* if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35 U.S.C. § 103(a) (emphasis added).

If subject matter is offered or sold for commercial purposes in this country, it is *pro tanto* "on sale" and part of the prior art. It contributes to the prior art whatever the subject matter offered or sold gives to the public. The Court recognized this axiom in

Bonito Boats, Inc. v. Thunder Craft Boats, Inc., 489 U.S. 141, 150 (1989), stating:

> The nonobviousness requirement extends the field of unpatentable material beyond that which is known to the public under §102 to include that which could readily be deduced from publicly available material by a person of ordinary skill in the pertinent field of endeavor.

Indeed, in the Court's landmark case interpreting section 103, *Graham v. John Deere*, 383 U.S. 1, 19-26 (1966), the Court considered as prior art under section 102(b) a prior patent even though that patent did not disclose every element of the claimed invention.

The only issue for determining whether subject matter constitutes prior art under the "on sale" provision of section 102(b) is whether it is on sale. Whether it is a completed invention or not determines not whether it is prior art, but how far that art is relevant to invalidating the claimed invention under sections 102 and/or 103. The more developed the "on sale" subject matter, the more relevant it will be to the claimed invention.

II.

PETITIONER'S PROPOSED REDUCTION TO PRACTICE STANDARD HAS NO SUPPORT IN THE LEGISLATIVE HISTORY OF THE ON SALE BAR OR THIS COURT'S JURISPRUDENCE.

Petitioner and supporting amici also rely on the legislative history and judicial history of the on sale bar to argue for the proposed reduction to practice standard. Petitioner cites language

from this Court's decision in *Andrews v. Hovey*, 123 U.S. 267 (1887), and the 1939 Patent Act that incidentally reference a complete invention, but neither of those sources were addressing the issue at hand. Petitioner also cites regional circuit decisions after the 1952 Patent Act that articulated a reduction to practice requirement. Those decisions, however, misunderstood this Court's long-established experimental use negation of public use or on sale activity as a requirement for a reduction to practice of the subject matter placed on sale.[5] The full history of the on sale bar shows that there is no support in this Court's jurisprudence or the legislative history of the various Patent Acts for a reduction to practice requirement for on sale activities.

A. The Early Patent Acts And The Origin Of The Experimental Use Negation Of The Public Use And On Sale Bars.

The Constitution grants Congress the power "to promote the Progress of . . . useful Arts, by securing for limited Times to . . . inventors the exclusive Right to their . . . Discoveries." U.S. Const. art. I, § 8, cl. 8. Congress exercised this power in 1790 by enacting the first patent statute, which authorized the grant of a patent for "any useful art, manufacture, engine, machine or device, or any improvement therein *not before known or used*." Act of April 10, 1790, ch. 7, § 1, 1 Stat. 109-

5. As explained more fully below, the experimental use negation of the on sale bar is *not* the same as a reduction to practice requirement. This Court made clear that the experimental use negation applies only when the offer or sale is made *for experimental purposes*. *Smith & Griggs Mfg. Co. v. Sprague*, 123 U.S. 249, 257-58 (1887); *City of Elizabeth v. Pavement Co.*, 97 U.S. 126, 133-137 (1877). It does not negate commercial offers and sales merely because the thing offered is not complete. *Id.* at 137; *id.* at 258. As Petitioner proposes in this case, a reduction to practice standard would negate commercial offers and sales in production quantities, irrespective of an experimental purpose, if it happened that no physical device had been built at the time of the offer/sale.

12 (emphasis added). Congress clarified this language three years later by revising the statute to allow the grant of a patent for "any new and useful art, machine, manufacture or composition of matter, . . . *not known or used before the [patent] application*." Act of February 21, 1793, ch. 11, § 1, 1 Stat. 318-23 (emphasis added). The portion of the statute that barred the grant of a patent on subject matter used before the filing of the patent application came to be known as the "public use bar."

Early on it became apparent that under the literal language of the 1793 patent act, any activity placing an embodiment of the invention in public use before the inventor filed a patent application would create a bar, even where the inventor needed to test the embodiment in public before filing a patent application. To ameliorate this harsh result, the courts held that the inventor's pre-application experiments are not the kind of activity that creates a public use bar under the statute. *Shaw v. Cooper*, 32 U.S. (7 Pet.) 292, 318 (1833); *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 18-19 (1829); *Morris v. Huntington*, 17 F. Cas. 818, 819 (C.C.D.N.Y. 1824) (No. 9,831). Thus, the courts created what has come to be known as "experimental use negation" of the public use bar.

Congress amended the patent statute again in 1836, authorizing the grant of a patent for "any art, machine, manufacture, or composition of matter, not . . . at the time of [the inventor's] application for a patent, in public use or on sale, with his consent or allowance." Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117. By this statute, Congress augmented the public use bar with an "on sale" bar, which barred the grant of a valid patent if an embodiment of the invention had been placed on sale before the patent application was filed. Courts have applied the same experimental use negation analysis to the on sale bar that they have applied to the public use bar. *E.g.*,

Manville Sales Corp. v. Paramount Systems, Inc., 917 F.2d 544, 550 (Fed. Cir. 1990); *Ushakoff v. United States*, 327 F.2d 669, 671-72 (Ct. Cl. 1964).

In 1839, Congress again amended the patent statute, adding a prior user right that allowed those purchasing, using or selling embodiments of the invention before the filing of the patent application to continue using it, and making those pre-filing purchases, uses or sales that occurred more than two years before the filing of the patent application prior art that could invalidate the patent. Act of March 3, 1839, ch. 88, § 7, 5 Stat. 353-55 ("no patent shall be held to be invalid by reason of such purchase, sale or use prior to the application for patent as aforesaid, except on proof . . . that such purchase, sale or prior use has been for more than two years prior to such application for patent").[6]

With the adoption of the grace period, all activities occurring less than two years before the patentee filed the patent application were automatically immunized from the application of the public use and on sale bars. Continued application of experimental use negation further immunized from the bars activities conducted before the grace period started, so long as the activities were undertaken substantially for an experimental purpose. *See City of Elizabeth*, 97 U.S. at 134, 137. Commercial activities found no refuge in experimental use negation and led to invalidation of the patent under either the public use or on sale bars. *Smith & Griggs*, 123 U.S. at 257, 264; *Hall v. Macneal*, 107 U.S. 90, 96-97 (1883); *Egbert v. Lippmann*, 104 U.S. 333, 337 (1881).

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6. Congress did not, as amicus American Intellectual Property Law Association suggests, limit the acts that could create an on sale bar to an actual sale of a physical embodiment.

B. Petitioner's Historical Argument Based On *Andrews v. Hovey* Ignores The Fact That *Andrews* Never Addressed The Then Well-Established Rule That Only Experimental Purpose Could Prevent Pre-Grace Period Offers And Sales From Being "On Sale" Under The Patent Act.

Petitioner's first "legislative history" argument is based on a passing reference to "completing an invention" in this Court's decision in *Andrews v. Hovey*, 123 U.S. 267 (1887).[7] There was never any issue in *Andrews* whether the subject matter used in public was "complete" or whether the Patent Act required a "complete invention." 123 U.S. at 268. The Court addressed only whether invalidating on sale and public use activity was limited to activities done with the consent of the inventor. *Id.* The Court held that public use more than two years before the filing was invalidating even if it was done without the knowledge or consent of the inventor. 123 U.S. at 275. The Court did not even consider, let alone establish, a reduction to practice requirement for the on sale bar in *Andrews*.

Indeed, contemporaneously, the Court made clear that commercial use and sales were invalidating. For example, in *City of Elizabeth*, the Court held that the inventor Nicholson's pre-grace period use of his patented pavement did not create a bar because "Nicholson merely intended *this* piece of pavement as an experiment, to test its usefulness and durability." 97 U.S.

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7. The Court stated that the object of the 1839 amendment

> was to require the inventor to see to it that he filed his application within two years from the completion of his invention, so as to cut off all question of the defeat of his patent by a use or sale of it by others more than two years prior to his application, and thus leave open only the question of priority of invention.

123 U.S. at 274.

at 134 (emphasis added).[8] The Court emphasized, however, that commercial use or sale *would* invalidate: "Any attempt to use it for a profit, and not by way of experiment, for a longer period than two years before the application, would deprive the inventor of his right to a patent." 97 U.S. at 137.

Similarly, in *Smith & Griggs*, the Court explained:

> The thing implied as excepted out of the prohibition of the [public use and on sale bar] statute is a use which may be properly characterized as substantially for purposes of experiment. Where the substantial use is not for that purpose, but is otherwise public, and for more than two years prior to the application, it comes within the prohibition.

123 U.S. at 256.

C. Petitioner's Argument Regarding The Legislative History For The 1939 Act Fails.

Petitioner's second legislative history argument relies on a single sentence from two congressional reports issued a hundred years after creation of the on sale bar and its grace period:

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8. This Court's focus on the purpose of the use, rather that the level of completion, was clear:

> The next question to be considered is, whether Nicholson's invention was in public use or on sale, with his consent and allowance, ...
>
> To determine this question, it is necessary to examine the circumstances under which this pavement was put down, and the *object and purpose* that Nicholson had in view.

97 U.S. at 133 (emphasis added).

> The present law *permits* an inventor after his invention is fully completed to make the invention known to the public for a period of 2 years before the filing of his application for patent.

No. 876, 76th Cong., 1st Sess. 1 (1939); H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939) (emphasis added). This sentence does not state that the then two-year grace period could not begin until after the invention had been fully completed. Rather, it merely states that the inventor could take advantage of the full grace period even after he had fully completed his invention, a proposition as unremarkable (and irrelevant to the issue before this Court) today as it was then. The 1939 amendment's sole purpose was to shorten the grace period from two years to one year, not to establish or even affirm a reduction to practice requirement for application of the on sale bar. S. Rep. No. 876, 76th Cong., 1st Sess. 1 (1939); H.R. Rep. No. 961, 76th Cong., 1st Sess. 1 (1939).

D. The Regional Circuit Cases That Petitioner Cites For A Reduction To Practice Standard Misapplied This Court's Experimental Use Doctrine.

Long after Congress created the public use and on sale bars and the grace period, and well after the courts created experimental use negation, the lower courts began to seriously confuse the experimental use and grace period analysis. These courts created as a requirement for application of the on sale bar that commercial embodiments of the invention were "on hand," ready for shipment at the time of the on sale activity. *B.F. Sturtevant Co. v. Massachusetts Hair & Felt Co.*, 124 F.2d 95 (1st Cir. 1941); *Burke Electric Co. v. Independent Pneumatic Tool Co.*, 234 F. 93 (2d Cir. 1916); *M'Creery Eng. Co. v. Massachusetts Fan Co.*, 195 F. 498, 503 (1st Cir. 1912). At the time Congress enacted the 1952 patent statute, there was

nothing approaching uniformity in requiring a level of development of the invention for application of the on sale bar.

The lone congressional comment in the 1952 House and Senate Reports as to what the law *allowed* an inventor to do led some courts and commentators — and Petitioner — to assert that Congress acknowledged that the law *required* reduction to practice for application of the public use and on sale bars. *E.g.*, *Stewart-Warner Corp. v. City of Pontiac*, 717 F.2d 269, 273 (6th Cir. 1983), *citing* Note, *New Guidelines for Applying the On Sale Bar to Patentability*, 24 Stan. L. Rev. 730, 732-35 (1972); *Austin v. Marco Dental Products*, 560 F.2d 966, 970 (9th Cir. 1977). As shown above, however, the history of the bars, the grace period and experimental use negation show that that assertion, as well as the premise of Petitioner's argument in this case, is simply wrong. Neither the 1939 House report nor the 1939 Senate report stated or suggested that the inventor needed to reduce the invention to practice before the statutory grace period could begin.

By 1982, when Congress created the United States Court of Appeals for the Federal Circuit, some of the regional circuit courts had adopted the reduction to practice requirement for application of the public use and on sale bars. *See Timely Products Corp. v. Arron*, 523 F.2d 288, 302 (2d Cir. 1975) ("an invention cannot be offered for sale until it is completed, which requires not merely its conception but its reduction to practice").[9] The Federal Circuit rejected the reduction to practice

9. The case law was not unanimous. Charles C. Wells & Wayland H. Riggins, *Public Use and Sale as a Bar to Obtaining a Patent and its Application to Government Activities*, 18 American U.L. Rev. 43, 58 (1968). While some courts applied the on hand requirement, *see* 2 Anthony W. Deller, *Deller's Walker on Patents* § 147 (2d ed. 1964), others applied a looser standard: "sufficiently reduced to practice." *Langsett v. Marmet Corp.*, 231 F. Supp. 759, 769 (W.D. Wis. 1964).

requirement in *UMC Electronics Co. v. United States*, 816 F.2d 647, 656 (Fed. Cir. 1987). Over ten years later, Petitioner has not identified any valid reason, particularly not in the statute or its legislative history, why this Court should revive the reduction to practice requirement.

III.

PETITIONER'S REDUCTION TO PRACTICE REQUIREMENT FINDS NO SUPPORT IN THE POLICIES UNDERLYING THE ON SALE BAR.

A. The Well-Established Experimental Use Doctrine Protects The Interests Of Inventors Without Compromising, As A Reduction To Practice Standard Would, The Interests Of The Public.

Petitioners and supporting amici argue on policy grounds that a reduction to practice standard is necessary to protect the interests of inventors who need time to reduce their inventions to practice before filing. The well established experimental use doctrine, however, already protects inventors who offer or sell their invention for experimental purposes. No reduction to practice standard is needed for that.

Led by this Court's decision in *City of Elizabeth*, the experimental use doctrine negates the on sale bar when subject matter is offered or sold for experimental, rather than commercial purposes. As the Federal Circuit summarized:

> [A] use or sale is experimental for purposes of section 102(b) if it represents a bona fide effort to perfect the invention or to ascertain whether it will answer its intended purpose. . . . If any commercial exploitation does occur, it must be merely incidental

to the primary purpose of experimentation to perfect the invention.

Pennwalt Corp. v. Akzona Inc., 740 F.2d 1573, 1580-81 (Fed. Cir. 1984) (citations omitted); *see also TP Laboratories v. Professional Positioners Inc.*, 724 F.2d 965, 971 (Fed. Cir. 1984), quoting *City of Elizabeth* at length.

The experimental use doctrine protects an inventor's interest in having an opportunity to test and develop his invention before filing for a patent. Indeed, "[t]he policy behind experimental use negation is to give the inventor an *opportunity* to reduce the invention to practice." *Continental Plastic Containers v. Owens Brockway Plastic Products, Inc.*, 141 F.3d 1073, 1079 (Fed. Cir. 1998) (emphasis added). It is to give an opportunity, not a time period, for experimentation.

If the inventor makes the claimed invention a subject of a pre-critical date activity for a commercial purpose, that activity does not further the policy of allowing him the opportunity to reduce the invention to practice. The inventor's clock should and does begin to run. Indeed, the mere act of offering or selling an embodiment of the invention for commercial purposes is the most objective evidence available that the invention is sufficiently complete for an inventor to file an application within one year.

The proposed reduction to practice standard for on sale activity directly attacks the policies of the on sale bar that protect the public. In particular, the objective underlying the "on sale" statute is "that of prohibiting the commercial exploitation of the [invention] beyond the statutorily prescribed time period." *Continental Plastic*, 141 F.3d at 1079; William C. Rooklidge, *The On Sale and Public Use Bars to Patentability: The Policies Reexamined*, 1 Fed. Cir. B.J. 7, 22-28 (1991). A reduction to

practice requirement would nullify this objective by insulating pre-grace period commercial activities from the on sale bar.

If the Court were to adopt the proposed reduction to practice standard, it would necessarily eliminate the experimental use doctrine. By definition, there is no need to experiment on the claimed invention if the inventor knows the claimed invention will work for its intended purpose, i.e., the invention has been reduced to practice as Petitioner defines that term. *RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1061 (Fed. Cir. 1989). The experimental use doctrine already gives inventors the development benefits of the reduction to practice standard proposed to replace it, if necessary. But if the new standard is adopted, the public loses.

B. Petitioner's Other Policy Arguments Have No Merit.

There is no danger that without a reduction to practice requirement the bars might be applied to "mere concepts," a ten year old prediction that has not come true. *See UMC*, 816 F.2d at 658, 664-65 (Smith, J., dissenting). Much more is required by the statutory requirement that the thing placed on sale be the claimed invention — in other words, the patent claim must read literally onto the thing placed on sale — to invalidate the claim under section 102, or serve as prior art establishing that the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made in order to invalidate the claim under section 103. That the patent claim itself must be compared rigorously to the subject matter of the barring activity ensures that the bar will not be applied to a mere concept. This case demonstrates that application of the on sale bar to mere concepts is a red herring; both the district court and the Federal Circuit carefully applied the language of the claims to the detailed disclosure of the patentee's production drawings to determine that the subject matter of the activity

(i.e., the thing offered for sale) was in fact the claimed invention. *Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1431-32, 1435-36 (Fed. Cir. 1997), *cert. granted*, 118 S. Ct. 1183 (1998). The courts do not need the reduction to practice requirement to avoid application of the bars to mere concepts.[10]

In any event, how is placing a "mere concept" on sale different from publishing a "mere concept" in a foreign printed publication? Why should they be treated differently? They should not. An incomplete description in a printed publication and an incomplete device placed on sale in this country more than a year before filing of a patent application both should stand on the same footing: they both should be prior art for what they teach.

Another false premise for Petitioner's policy argument is that the reduction to practice standard would provide a bright-line rule for inventors. Far from a bright-line rule, reduction to practice is complicated and subjective. An inventor would need to determine the claimed invention as it would years later be defined in a patent application or issued patent, and then determine whether that invention was constructed and would work for its intended purpose. This rule, which would require the inventor to cast his mind forward in time to the drafting and prosecution of the patent application, would be considerably more difficult than the bright-line rule advocated herein. If an inventor places something on sale, he must file a patent

10. The same holds true for the "substantially reduced to practice" requirement adopted by the Federal Circuit in *Robotic Vison*, 112 F.3d at 1167, and *Micro Chem.*, 103 F.3d at 1545. These cases led one commentator to remark: "The Federal Circuit's recent decisions in the on-sale bar arena have left such confusion in its wake that the development of clearer guidelines is imperative." Hugh H. Matsubayashi, *In re Mahurkar: The Federal Circuit's Misapplied Focus On Commercialization In "On Sale" Bar Analysis*, 72 Wash. L. Rev. 267, 290 (1997).

application within a year of doing so or the thing placed on sale would become prior art to his application. That leaves only the question of whether the thing placed on sale embodied the claimed invention. If so, the patent claim would be unpatentable. If not, the thing placed on sale would still become prior art for purposes of an obviousness analysis.

CONCLUSION

Section 102 treats on sale prior art the same as all other forms of prior art. If subject matter is offered or sold in this country for commercial purposes more than one year before the filing date of the patent application at issue, that subject matter is "on sale" and becomes part of the prior art to that application and any resultant patent for whatever that subject matter adds to the public domain.

Respectfully submitted,

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